



STATE OF MAINE

Department of Environmental Protection

JOHN ELIAS BALDACCI
GOVERNORDavid P. Littell
COMMISSIONER

August 31, 2009

Ms. Jennifer Robinson, Compliance Officer
Island Aquaculture Corporation
133 Smalls Point Road
Machiasport, ME 04655

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0110426
Maine Waste Discharge License (WDL) Application #W008199-5Q-B-R
Final Permit/License-Black Island

Dear Ms. Robinson:

Enclosed please find a copy of your **final** Maine MEPDES Permit/WDL which was approved by the Department of Environmental Protection. Please read the license and its attached conditions carefully. You must follow the conditions in the license to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State Law and is subject to enforcement action.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations, may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled "*Appealing a Commissioner's Licensing Decision.*"

If you have any questions regarding this matter, please feel free to contact me at (207) 287-7658 or at phyllis.a.rand@maine.gov.

Sincerely,

Phyllis Arnold Rand
Division of Water Quality Management
Bureau of Land and Water Quality

Enclosure

Matt Young, DEP Lori Mitchell, DMU Diantha Robinson, DMR Sylvia Brann, DMR
Sandy Mojica, EPA David Webster, EPA Dave Manski, Acadia Nat. Park Dr. Fauna Stone

AUGUSTA

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STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION
AUGUSTA, ME 04333

DEPARTMENT ORDER

IN THE MATTER OF

ISLAND AQUACULTURE CORP.)	MAINE POLLUTANT DISCHARGE
FRENCHBORO, HANCOCK CNTY, ME.)	ELIMINATION SYSTEM PERMIT
AQUACULTURE – BLACK ISLAND)	AND
DMR SITE DESIGNATION – SWAN BI)	WASTE DISCHARGE LICENSE
ME0110426)	
W008199-5Q-B-R APPROVAL)	RENEWAL

Pursuant to the provisions of the *Federal Water Pollution Control Act*, Title 33 USC, §1251, *Conditions of Licenses*, 38 M.R.S.A. § 414-A, and applicable regulations, the Maine Department of Environmental Protection (Department hereinafter) has considered (hereinafter) has considered the application of ISLAND AQUACULTURE CORPORATION (“permittee,” hereinafter), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The permittee has filed an application with the Department for the renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit # ME0110426/Waste Discharge License (WDL) # W008199-5Q-A-N (“permit,” hereinafter) for the Black Island facility. The permit was issued by the Department on May 26, 2004 with an expiration date of May 26, 2009.

The permit authorized the discharge of wastes associated with the operation of an Atlantic salmon aquaculture facility located in Eastern Blue Hill Bay in Frenchboro, Maine. The permit authorized the permittee to operate a facility that is comprised of thirteen (13) polar circles, each measuring 100 meters in circumference, with a maximum stocking density of 25 kg/m³ and maximum biomass of 3,623,000 kg. See **Attachment A** of this permit for a site location map.

REGULATORY SUMMARY

The 5/26/04 permit was issued to Island Aquaculture Company, a subsidiary of Atlantic Salmon of Maine.

PERMIT SUMMARY

This permitting action is significantly different from the 5/26/04 permitting action in that it is:

1. Eliminating the requirement for facilities to participate in the Finfish Aquaculture Monitoring Program (FAMP) administered by the Maine Department of Marine Resources (MeDMR);
2. Eliminating previous Special Condition K, *Husbandry Practices*;
3. Eliminating the requirement to report the facility's food conversion ratio (FCR);
4. Eliminating near-field and far-field ambient water quality monitoring requirements (previous Special Condition E.6 and E.7);
5. Revising the warning level and impact limit thresholds for the sediment mixing zone (Special Condition F of this permit);
6. Revising the submission deadline for video records and schematic of the video track (Special Condition E.3 of this permit) from 90 days of the monitoring event to "as soon as possible following a reasonable opportunity to review data prior to submission, or within 15 days following the monitoring event, which ever period is sooner";
7. Revising the requirement to submit written reports of video/photographic monitoring events from every time a video record is created to only those times when benthic infauna measurements are made (Special Condition E.3 of this permit);
8. Revising the horizontal predator net minimum separation criterion (Special Condition J.7 of this permit) from 3 meters to 1 meter;
9. Eliminating the requirement to notify the Department of changes in the mooring system configuration (previous Special Condition J.8) as this information is reported to the Army Corps of Engineers and available upon request;
10. Revising the 24-hour reporting requirements at Special Condition J.8 of this permit;
11. Eliminating the narrative condition specifying that discharges shall not produce or result in harmful algae blooms (previous Special Condition D.5 of this permit) as this is otherwise covered in the permit.

CONCLUSIONS

Based on the findings in the attached Fact Sheet, dated August 31, 2009, and subject to the conditions herein, the Department makes the following CONCLUSIONS:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.
2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with State law.
3. The provisions of the State's antidegradation policy, 38 M.R.S.A. §464(4)(F), will be met, in that:
 - (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;
 - (b) Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;
 - (c) The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;
 - (d) Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification that higher water quality will be maintained and protected; and
 - (e) Where a discharge will result in lowering the existing water quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.
4. The discharges will be subject to effluent limitations that require application of best practicable treatment as defined in Maine law, 38 M.R.S.A., §414-A(1)(D).

ACTION

THEREFORE, the Department APPROVES the above noted application of ISLAND AQUACULTURE CORPORATION to discharge wastes associated with the operation of a finfish aquaculture facility referred to as the Black Island site in Eastern Blue Hill Bay in Frenchboro, Maine. The aquaculture facility will be SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including:

1. "*Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable to All Permits*," revised July 1, 2002, copy attached.
2. The attached Special Conditions, including any effluent limitations and monitoring requirements.
3. This permit expires five (5) years from the date of signature below.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: May 7, 2009.
Date of application acceptance: May 12, 2009.

This Order prepared by Phyllis Arnold Rand, BUREAU OF LAND & WATER QUALITY

ME0110426 2009

SPECIAL CONDITIONS

A. GENERAL LIMITATIONS

The permittee may discharge from the floating net pens identified in the application accepted by the Department for processing on May 12, 2009, for the following pollutants: fish excrement, fish feed and drugs pursuant to Special Condition K, *Use of Drugs for Disease Control*. Additionally, other discharges incidental to the normal and proper operation of the facility, such as the loss of fish scales and treatment compounds used on structures and vessels to limit marine growth, may occur provided they do not have significant adverse effects on water quality, and that they are minimized to the greatest extent practical through implementation of best management practices (BMP's).

Domestic waste shall not be discharged and must be collected and transported to a land-based facility authorized to dispose of domestic waste.

B. FEEDING RATES AND MONITORING

The permittee shall employ efficient feed management and feeding strategies that limit feed input to the minimum amount reasonably necessary to achieve production goals and sustain targeted rates of aquatic animal growth. These strategies must minimize the accumulation of uneaten food beneath the pens through the use of active feed monitoring and management practices. **The permittee shall maintain a real-time monitoring system** designed to detect uneaten feed passing through the net pens. Such systems include, but are not limited to, acoustic sonar detection or video cameras. There shall not be any significant accumulation of unconsumed feed on the sea floor beneath or adjacent to net pens.

C. MIXING ZONES

This permit establishes two mixing zones: (1) a Water Column Mixing Zone, and (2) a Sediment Mixing Zone. Outside the designated Mixing Zones, discharges from the facility shall not cause or contribute to conditions that are hazardous or toxic to aquatic life, or that would impair the uses designated by the classification of the receiving waters. The location of the mixing zones may be shifted to reflect the effect of currents unique to a specific site, provided that the offset mixing zones are no larger in area than those defined by the size of the net pen(s).

- 1. Water Column Mixing Zone.** The Water Column Mixing Zone is defined as the area within and extending 30 meters beyond the perimeter of a net pen in all directions on the surface, and down to the sea floor/water column interface.

The dissolved oxygen concentration within the water column mixing zone shall not be lower than 6 mg/L at any point from the surface down to the sea floor/water column interface. The Department reserves the right to require routine or periodic dissolved oxygen monitoring within the water column mixing zone. In the event ambient DO within the water column mixing zone is less than 6 mg/L, the Department will take into consideration DO monitoring results from up-current and down-current monitoring stations in determining a

SPECIAL CONDITIONS

C. MIXING ZONES (cont'd)

facility's contribution to low ambient DO. Except for dissolved oxygen percent saturation, water quality within the water column mixing zone shall comply with the applicable standards specified at *Standards for Classification of Marine and Estuarine Waters*, 38 M.R.S.A. §465-B. At no time shall the net pen facility cause non-compliance of numeric or narrative water quality standards outside the designated water column mixing zone.

2. **Sediment Mixing Zone.** The Sediment Mixing Zone is defined as the sea floor directly below a net pen and extending on the sea floor 30 meters beyond the perimeter of each net pen in all directions. See Special Condition F for limitations on changes that may occur within the Sediment Mixing Zone.

D. NARRATIVE EFFLUENT LIMITATIONS

1. Discharges shall not cause a visible oil sheen, foam, or floating solids at any time that would impair the uses designated by the classification of the receiving waters;
2. Discharges shall not contain materials in concentrations or combinations that are hazardous or toxic to aquatic life, or that would impair the existing or designated uses of the receiving waters;
3. Discharges shall not cause toxicity, visible discoloration, turbidity or other effects to the receiving water that would impair the existing or designated uses of the receiving waters;
4. The permittee shall not discharge suspended or settleable solids that will have significant adverse effects on the quality or any uses of the receiving water body; and
5. Notwithstanding compliance with specific conditions of this permit, the discharge shall not cause or contribute to violations of water quality standards.

E. MONITORING REQUIREMENTS

1. **Sampling information.** For all benthic monitoring samples collected, the permittee shall measure and maintain records of the sampling location, recorded as latitude and longitude to the nearest one-tenth second. All monitoring information and records required by this permit shall be kept current at all times and made available to representatives of the Department, Maine Department of Marine Resources (MeDMR), and USEPA upon request.

SPECIAL CONDITIONS**E. MONITORING REQUIREMENTS (cont'd)**

2. **Feed discharge and fish monitoring requirements.** The facility shall maintain and report monthly to the Department, on a reporting form approved by the Department, the following information.
 - a. The number of net pens in use, including type, size and configuration;
 - b. The age, weight and number of fish in each net pen;
 - c. The number and total weight of fish contained in all net pens in use;
 - d. The total amount of feed added to each net pen;
 - e. The total amount of feed added to all net pens.
3. **Video and photographic monitoring requirements.** The facility shall conduct color video or photographic evaluations of the sea floor under and adjacent to each net pen system at a minimum frequency **once per month (1/Month) from April through October of each year beginning 60 days after stocking of the facility.** Multiple evaluations may be needed where independent pens or systems preclude coverage by one transect. Monitoring and evaluation shall be conducted in accordance with methods specified by the Department.

The Department may provide a permittee with a written waiver for monitoring events for individual facilities when: 1) there have been no fish on the site since the previous video monitoring event; or 2) monitoring the preceding fall indicates that the warning levels specified in Special Condition F of this permit are not exceeded and there are no other indications of adverse conditions resulting from the facility's operation; and 3) the permittee provides written request (return receipt required for postal mail; delivery receipt required for electronic mail) to the Department compliance inspector for consideration of said waiver.

Table E.3. Video and photographic monitoring requirements.¹⁻⁵

Monitoring Characteristic	Substrate Video Monitoring/Transect			
	Transect Beneath Pens	Transect 60 m up-current from edge of pens	Transect 60 m down-current from edge of pens	Frequency
Video Records or Photographs of Substrate	Report	Report	Report	2 per year

Footnotes to Table E.3.

1. Reports of monitoring shall include the date(s) on which monitoring was conducted and the video records or photographs, along with all supporting information including a site schematic of the video track or still photo locations in relation to the net pens. The beginning and ending points of transects, all sample points, and all reference site

SPECIAL CONDITIONS**E. MONITORING REQUIREMENTS (cont'd)**Footnotes to Table E.3.

sample points, if applicable, shall be located by GPS following Department standards, including but not limited to, an accuracy of less than 10 meters.

Video records and schematic of the video track shall be submitted to the Department **within 15 days following the monitoring event.**

The permittee shall **immediately report** to the Department any evidence of non-compliance, water quality or benthic impacts observed during the video survey.

Written reports of video/photographic monitoring events shall be submitted to the Department **within 30 days following the monitoring event only when taxa measurements are made.**

The Department may provide a written extension for these data submission deadlines if necessary due to extenuating circumstances beyond the control of the permittee.

2. Except as provided below, the survey shall be documented with continuous video footage. The recorded survey shall document:
 - a. The sediment type and color, as well as features, noting erosional or depositional areas;
 - b. The flora/fauna observed as to their relative abundance;
 - c. The presence of feed pellets or other debris lost as a result of the facility operation;
 - d. The presence of *Beggiatoa* or *Capitella* type mats and its growth described as light, moderate, or heavy;
 - e. Relative abundance of *Beggiatoa* or *Capitella* shall be characterized approximately as follows: abundant (frequently present within the video coverage); common (seen occasionally throughout the video coverage or existing in patches); rare (only seen once or in a few places throughout the dive);
 - f. The presence of black or dark-colored sediments, spontaneous or induced gassing, or the presence of pimpled sediments. Sediments shall be tested for gassing by a minimum of one separate hand swipe per net pen in a transect wherever *Beggiatoa* or *Capitella*-type mats or dark-colored sediments are observed or at a random location per transected net pen if mats or dark sediments are not observed;

SPECIAL CONDITIONS

E. MONITORING REQUIREMENTS (cont'd)

Footnotes to Table E.3.

- g. The location and appearance of any nets located on the bottom and their locations relative to the pen system, the extent to which the net(s) is buried beneath sediments.
3. If water depths at a facility exceed the State of Maine's safe working depth limit of 85 feet for SCUBA diving or divers determine that conditions are not safe to perform the scheduled video monitoring event, video surveys normally conducted by divers may instead be obtained using one or more of the following methods: a video camera mounted on a tethered sled, a tethered drop still camera, tethered drop video camera or equivalent. If still photos are taken with a tethered camera, one photograph shall be taken at least every 10 meters along each transect. If divers determine that they can not safely conduct the video monitoring, 1) the video monitoring event shall be rescheduled, if possible, when safe diving conditions resume; or 2) the monitoring event may proceed using the alternate methodologies specified above and the permittee shall provide as part of the written video/photographic report(s) documentation of the unsafe condition(s) and reason(s) the video survey could not be rescheduled.
4. A video/photo transect shall be conducted beneath the pens (or, if not possible due to depths beyond 85 feet or physical constraints, directly adjacent to the up-current edge of the pens) along an axis representing the direction of the prevailing current, and extend 60 meters beyond the pen system on each end, and located to best reflect the extent of the facility's impact on benthic conditions. Video coverage of sediments beneath or adjacent to feed or service barges shall be noted on the video narrative.
5. The video coverage shall be in color, and of sufficient detail and clarity to allow for the accurate assessment of benthic conditions. The camera should be positioned at a height above the substrate that will provide approximately one square meter of bottom coverage, and be illuminated with sufficient artificial light to enable the accurate identification of epibenthic organisms and sediment conditions. A brief written narrative with the video record or photos describing reference points shall be provided. All video documentation shall include the dates on which it was taken, the direction of the current, and the geographic positions of the start and endpoints of the transects. The Department reserves the right to require a permittee to conduct additional video or photo transects if:
 - 1) the quality of the videos/photos is deemed insufficient or not representative to determine compliance with this permit or applicable water quality standards; or
 - 2) conditions observed in the videos/photos warrant additional monitoring to determine compliance with this permit.

SPECIAL CONDITIONS**E. MONITORING REQUIREMENTS (cont'd)**

4. Sediment and benthic monitoring requirements. The permittee shall conduct monitoring of the sediments on the sea floor as follows. Benthic monitoring shall focus on sediment conditions and the infaunal community. The reference site is described in Special Condition G. The Department may require that the monitoring required by this condition be continued following removal or relocation of a net pen as necessary to evaluate residual impacts. Monitoring and evaluation shall be conducted in accordance with methods specified by the Department.

Table E.4. Sediment and benthic monitoring requirements. ^{(1) (2) (3) (9)}

Monitoring Characteristics	Sample Stations and Reporting Requirements		Minimum Monitoring Frequency Requirements
	Within the mixing zone	30 m from net pens	
Sulfide ⁽⁴⁾	Report uM	Report uM	2/year in Apr-May and Aug-Oct ⁽⁵⁾
Anoxic Sediments, Gas Formation, <i>Beggiatoa</i> and <i>Capitella</i> mats ⁽⁶⁾	Report	Report	2/year in Apr-May and Aug-Oct ⁽⁵⁾
Benthic Infauna ⁽¹⁰⁾ [Taxa Present, Taxa Abundance, Total Abundance minus abundance of <i>Capitella capitata</i> , and Shannon-Wiener Diversity Index]	Report /0.1 square m	Report /0.1 square m	1/5 years ⁽⁷⁾
Percent Solids	Report %	Report %	1/5 years ⁽⁷⁾
Sediment grain size	Report % sand, silt, clay and gravel	Report % sand, silt, clay and gravel	1/5 years ⁽⁷⁾
Total Organic Carbon in Sediment	Report mg/g	Report mg/g	1/5 years ⁽⁷⁾
Copper, Total metal	Report mg/kg Dry weight	Report mg/kg Dry weight	1/5 years ⁽⁸⁾
Zinc, Total metal	Report mg/kg Dry weight	Report mg/kg Dry weight	1/5 years ⁽⁸⁾
Medications used ⁽¹¹⁾	Report ug/kg Dry weight	Report ug/kg Dry weight	Not less than 7 days nor more than 30 days following use of each medication

See pages 11 – 14 of this permit for applicable footnotes.

SPECIAL CONDITIONS**E. MONITORING REQUIREMENTS (cont'd)**Footnotes to Table E.4.

1. Sampling stations. Samples for all parameters (“Monitoring Characteristics” listed in Table E.5) shall be collected in triplicate from four sampling stations required by this section. Results for all individual samples shall be reported to the Department in addition to mean values. The transect utilized for sediment sampling shall be the same as that utilized for video/photo monitoring as described in Special Condition E.4 Footnote #4 (that is, along an axis representing the direction of the prevailing current, and extending 60 meters beyond the pen system on each end, and located to best reflect the extent of the facility’s impact on benthic conditions).

There shall be a minimum of 4 sampling stations along the transect with a minimum of 2 on each end of the net pens to represent conditions outside of and within the designated mixing zone as follows:

- a. Outside Mixing Zone: Along the transect at a point 30 meters from the outside edge of the pens
- b. Within Mixing Zone: Samples shall be collected along the transect at a point 5 meters from the outside edge of the pens. However, the Department reserves the right to require sampling at other specific locations based on reviews of video records or other site-specific considerations.

At each of the 4 sample stations, a minimum of 3 individual samples (total of 12 discrete sample points) shall be collected along a line perpendicular to the transect line. One sample shall be taken adjacent to the transect line and the other two samples shall be taken at a distance of 2 meters away from the transect line in both directions. If a sample is not possible at the 2-meter distance due to rocky conditions or other impediments, the sample should be taken as close to the 2-meter point as possible.

In order to fully evaluate conditions, the Department may require additional sampling locations on a case-by-case-basis.

2. Sampling times. Sediment and benthic monitoring shall be conducted at the same time that video monitoring is conducted.
3. Sediment sample collection, handling, preservation, storage, and analysis shall be conducted in accordance with USEPA approved methods.

SPECIAL CONDITIONS**E. MONITORING REQUIREMENTS (cont'd)**Footnotes to Table E.4. (cont'd)

4. Sulfide monitoring. Core samples for sulfide must consist of the top 2 cm of the seafloor. If sediment grain size or sediment depth at one or more sampling locations does not allow for the collection of sediments for sulfide analysis as required herein, the permittee shall provide a narrative in the report required by this section describing these.
5. Sulfide monitoring shall be conducted at least **twice per year** (once during the months of April – May and once during the months of August – October). The Department may provide an individual facility with an annual written waiver for the April – May sulfide sampling event if the video monitoring is waived pursuant to Special Condition E.4 of this permit.
6. Each grab sample shall be inspected for evidence of anoxic sediments (including hydrogen sulfide or methane gas formation or odor and surface color of sediments) and the presence of *Beggiatoa* or *Capitella*-type mats. **The results of each grab sample inspection (whether positive or negative for any of these conditions) shall be reported to the Department.**
7. Benthic infauna, sediment grain size, total organic carbon monitoring, percent solids, and metals (copper and zinc) shall be monitored at least **once every 5 years** during the months of August – October and sampling shall be performed in the first year when fish at the facility are at or near their maximum biomass for that growing cycle.

The Department reserves the right to require additional benthic infauna sampling based on best professional judgment taking into account the timing, frequency and severity of monitoring results that exceed the Warning Level or Impact Limit thresholds for any parameter established in Special Condition F of this permit, *Warning and Impact Thresholds*. When benthic infauna testing is determined to be the most appropriate Department response to an exceedence, the permittee shall coordinate with the Department to ensure monitoring is performed as soon as possible after such a determination is made.

The Department reserves the right to require more frequent or additional sediment or benthic infauna measurements for an individual facility based on test results, video surveys, or other relevant information.

SPECIAL CONDITIONS

E. MONITORING REQUIREMENTS (cont'd)

Footnotes to Table E.4. (cont'd)

Sediment grain size, total organic carbon monitoring, metals (copper and zinc) and percent solids determinations shall be performed **every time benthic infauna are sampled.**

8. Copper and zinc monitoring. Measurements shall be conducted **once every five years and each time benthic infauna measurements are made**, and shall be performed at a time when fish at the facility are at or near their maximum biomass for that monitoring period. Reports shall include the percent solids of the sediment sampled. Core samples for metals must **only** consist of the top 2 cm of the seafloor.
9. Reports shall include the date(s) of the sampling and the results of the analyses, along with all supporting information including a site schematic of the sample locations. Reports, in a format approved by the Department, **shall be submitted to the Department with the infauna report.** However, based on prior monitoring or other information that indicate the facility may be adversely impacting the Sediment Mixing Zone, the Department may require, in writing, earlier submission of monitoring reports. The Department may provide a written extension for this submission deadline if necessary due to extenuating circumstances beyond the control of the permittee.
10. Single core samples of 4 inches or greater in diameter shall be taken from the sediment for taxa measurements (infauna samples) and must be inserted to resistance or 15 cm, whichever is less. Depth of the core shall be reported. Infauna samples shall be sieved through a 1.0 mm mesh sieve. Organisms shall be fixed in 10% buffered formalin solution and stained with a 1% Rose Bengal staining solution. After one day or more in the formalin solution, the formalin shall be replaced with 70% ethanol to ensure preservation of the organism's integrity. Organisms shall be identified to the lowest practical taxonomic level, enumerated, and reported to the Department in raw form and per square meter or 0.1 m². Species diversity, richness, total abundance and total abundance minus the number of *Capitella capitata* shall also be reported. Shannon-Weiner Diversity Index results shall not be reported if the cumulative number of organisms present in all samples from one sampling station is less than 50. Reference specimens shall be maintained at the facility (or facility headquarters) for examination by Department staff or its designee for a period of at least 3 years following collection. The Department may require more specific identification of organisms in order to determine compliance with this permit.

SPECIAL CONDITIONS**E. MONITORING REQUIREMENTS (cont'd)**Footnotes to Table E.4. (cont'd)

11. Sediment monitoring for medications shall include analysis for the compound(s) used and any known primary metabolites. The Department may provide a written waiver for this monitoring requirement if the facility provides conclusive evidence (as determined by the Department) that medications used do not pose a potential to accumulate in sediments or organisms for sufficient time as to pose a potential threat to water quality or aquatic life. Core samples for medications must consist of the top 2 cm of the seafloor.

F. WARNING LEVEL AND IMPACT THRESHOLDS

With respect to the sediment and benthic monitoring specified in Special Conditions E.4 and E.5 of this permit, the following criteria will be applied by the Department in determining if discharges from a facility are causing or contributing to impairment of the State's water quality criteria.

Table F.1. Sediment Mixing Zone [under or within 30 m of net pen(s)] Warning and Impact Thresholds At Any Sampling Station.

<u>Metric</u>	<u>Warning Level</u>	<u>Impact Limit</u>
Sulfide ⁽¹⁾	Mean 2500 – 6000 uM at any station	Mean >6000 uM at any station
<i>Beggiatoa</i> Coverage	\geq 25% photo coverage ⁽²⁾⁽³⁾	\geq 50% photo coverage ⁽²⁾⁽³⁾
Anoxic Sediments ⁽⁴⁾	\geq 25% photo coverage ⁽²⁾⁽³⁾	\geq 50% photo coverage ⁽²⁾⁽³⁾
Benthic Infauna ⁽⁵⁾	>50% reduction in Shannon-Wiener diversity index OR >50% reduction of total abundance minus <i>Capitella capitata</i> OR >25% reduction in taxa richness OR >50% total abundance composed of <i>Capitella capitata</i>	Report Information

See pages 15 – 16 of this permit for applicable footnotes.

SPECIAL CONDITIONS**F. WARNING LEVEL AND IMPACT THRESHOLDS (cont'd)****Table F.2.** Sediment Impact Thresholds At Any Sampling Station Beyond Sediment Mixing Zone (≥ 30 m from the nets pens).

Metric	<u>Impact Limits</u>
Class SB waters	The habitat must be characterized as unimpaired. Discharges shall be of sufficient quality to support all estuarine and marine species indigenous to the receiving water without detrimental changes to the resident biological community
Benthic Infauna	>25% decrease in Shannon-Wiener diversity index OR >25% decrease in total abundance minus <i>Capitella capitata</i> OR >25% total abundance composed of <i>Capitella capitata</i> OR >25% reduction in total taxa richness
Sulfide ⁽¹⁾	Mean >3000 uM at any station
<i>Beggiatoa</i> Coverage	>5% photo coverage
Anoxic Sediments ⁽⁴⁾	Compelling evidence ⁽⁶⁾

See below for applicable footnotes.

Footnotes to Tables F.1 and F.2:

1. Mean values for sulfide shall be the average of all individual samples collected at a station at a given distance from the net pens (for example, mean value of all samples taken at a distance of 30 meters from net pen). **Results of individual samples shall also be provided to the Department.**
2. Percent coverage shall be determined by the Department from the review of video footage and /or photographs taken beneath or adjacent to each net pen.
3. Unless similar abundance or values exist in the baseline or reference site specified in this permit, or are the result of natural conditions, as determined by the Department based on best professional judgment.
4. Anoxic sediments consist of dark colored or significantly darkened sediment in comparison to natural conditions in the area, and/or the formation of hydrogen sulfide or methane gas as characterized by emission of gas bubbles, “pimpled sediments” or odors in the sediment, when such conditions are not observed in available baseline or reference site, or are a result of natural conditions as determined by the Department.

SPECIAL CONDITIONS

F. WARNING LEVEL AND IMPACT THRESHOLDS (cont'd)

Footnotes to Tables F.1 and F.2 (cont'd):

5. Benthic infauna criteria shall be evaluated taking into consideration changes in grain size and the number of organisms in each sample.
6. Compelling evidence includes photo or video documentation, diver observations, or sediment analyses that reveals actual off-gassing, or evidence of gas formation including "pimpled" sediments and the smell of hydrogen sulfide gas emitted from grab samples and that such conditions are not observed in available baseline or reference site, or are the result of natural conditions as determined by the Department.

The forgoing impact limits represent one definition of conditions that would represent non-attainment of narrative water quality standards. To assess compliance, the Department may consider the results of monitoring conducted pursuant to this permit, the conditions found in available baseline or reference site for comparative purposes and other available information. This information may include, but is not limited to, total abundance, diversity indices, dominant taxa, the percentage of mollusks, echinoderms and crustaceans, and trophic levels. In doing so, the Department may determine that other conditions found at an individual station may constitute a violation of narrative water quality standards.

The Department may take into account the presence of pollution-sensitive species when making a determination about the impact under this section. A list of pollution-sensitive taxa is determined from pre-operation baseline studies and/or available reference site specified in this permit. Such species include, but are not limited to, amphipods and cumaceans. Pollution-tolerant taxa include: *Capitella capitata*, Oligochaetata, and other taxa that may be present as determined from baseline information and/or the reference site.

Physical disturbance such as harrowing, dragging or other mechanical means shall not be used to mitigate bottom conditions unless approved in writing by the Department.

The permittee shall notify the Department as soon as it has reason to believe the warning levels that are specified for the Sediment Mixing Zone may be exceeded. At that time, or upon notification by the Department, the facility shall review its past operations and propose any changes that it deems necessary to assure that impact levels are not exceeded. If the degree by which warning levels are exceeded in subsequent monitoring events is increased, or if an impact level is exceeded at any time, the facility shall include in its notification, for the Department's for review and approval, a plan and implementation schedule for modification of operations. Such modifications may include, but are not limited to, reducing standing stock, reduced feeding, and/or fallowing of the site. New fish shall only be stocked into pens as described in a plan approved by the Department. The Department may require additional monitoring to determine the effectiveness of these measures or continuing trends in benthic conditions.

SPECIAL CONDITIONS**G. REFERENCE SITES**

The facility shall maintain reference sites and baseline information approved by the Department to provide comparative information on water quality and benthic conditions in the area of the net pens. Where a facility can satisfactorily demonstrate to the Department that relevant reference site information can not be obtained, the Department may grant a written waiver for this condition. Where sufficiently detailed and relevant baseline data are available, those data may be used in place of or in combination with reference station data for comparative information in evaluating the results of benthic monitoring tests. At a minimum, the monitoring characteristics specified in Table E.5. of this permit shall be monitored for consideration. Baseline information is required in certain circumstances pursuant to Special Condition E.2 of this permit.

H. TOXIC IMPACTS

1. The discharge of toxics into the waters of the State in concentrations identified by the Department as toxic to aquatic organisms is prohibited. When waters are temporarily contained within a barrier, such as a plastic tarpaulin, for the application of medications, at the point the barrier is removed the concentration of those medications shall not pose a risk of causing lethal effects on organisms passing through the water column. Within the water column mixing zone, acutely toxic (lethal response) conditions must not occur. At the edge of the water column mixing zone concentrations of any compound cannot exceed levels known to cause acute or chronic toxicity to marine organisms, or sub-lethal effects from repeated exposure.
2. Sediments within or beyond the Sediment Mixing Zone shall not contain toxics originating from the facility in concentrations or combinations that are likely to have a significant adverse effect on benthic infauna or epifauna, or bio-accumulate in organisms such that those organisms can have a significant adverse effect on marine life that prey upon them. Such marine life includes, but is not limited to, demersal finfish, lobster, and marine mammals.

I. PROTECTION OF ATLANTIC SALMON

1. All reproductively viable Atlantic salmon placed in net pens must be of North American origin.
 - a. Non-North American stock is defined as any Atlantic salmon (*Salmo salar*) that possess genetic material derived partially (hybrids) or entirely (purebreds) from any Atlantic salmon stocks of non-North American heritage, regardless of the number of generations that have passed since the initial introduction of the non-North American genetic material. For the purposes of this permit, classification of brood fish as either North American or non-North American stock will be based on genetic evaluation of each fish's DNA in accordance with Appendix A, *Atlantic Salmon Microsatellite Analysis Protocol*, of this permit. The Microsatellite Protocol shall be used to classify each brood fish.

SPECIAL CONDITIONS

I. PROTECTION OF ATLANTIC SALMON (cont'd)

- b. Only individual fish determined to be North American, according to Appendix A, can be used to produce offspring to be placed in net pens. No fish classified as non-North American according to Appendix A can be utilized to create progeny for stocking in net pens.
 - c. **Prior to January 1 of each year**, genetic evaluation information developed pursuant to Appendix A shall be submitted to the National Marine Fisheries Service and/or the US Fish and Wildlife Service (collectively, “the Services”), with confirmation sent to the Department.
 - d. Prior to the transfer of any eggs from individual family lots, the permittee shall submit to the Department confirmation from the Services demonstrating compliance with Special Condition I.1.a above. The permittee will include in this letter information demonstrating that the origin of the fish is North American, including identification of the hatchery, testing results, and a description of the chain of custody of the fish. In the event any fish or gametes are classified as non-North American pursuant to Appendix A, the permittee shall also report to the Department and the Services the disposition of those fish or gametes. No eggs shall be transferred without prior written approval from the Department.
2. Personnel from the Department, the MeDMR, the USEPA, and the Services shall be allowed to inspect the facility during normal operation hours. These personnel will provide credentials attesting to their position and will follow the site’s biosecurity procedures. Operational records regarding compliance with this permit shall be made available to these personnel for their inspection upon request.
 3. Transgenic salmonids. Transgenic salmonids are prohibited at these facilities. Transgenic salmonids are defined as species of the genera *Salmo*, *Oncorhynchus* and *Salvelinus* of the family Salmonidae and bearing, within their DNA, copies of novel genetic constructs introduced through recombinant DNA technology using genetic material derived from a species different from the recipient, and including descendants of individuals so transfected. This prohibition does not apply to vaccines.
 4. Fish introduced into net pens must be marked to designate their origin so that in the event they escape or are released from the facility they may be identified. At least 90 days prior to marking fish to be stocked, the permittee shall specify, to the Department and the Services for their review and approval, a description of the marking method(s) it proposes to use for this purpose. An approved QA/QC program needs to be in place to monitor compliance with aforementioned requirement. In the event similar or conflicting marks or marking methods are proposed by different facilities, the Department may require the permittee to make changes to assure that fish will be uniquely identifiable as to the facility into which they are placed.

SPECIAL CONDITIONS

I. PROTECTION OF ATLANTIC SALMON (cont'd)

- a. All fish placed in net pens must be identifiable through external means as commercially reared and identifiable as to the individual facility into which they were placed. Alternately, the Department may reopen this permit pursuant to Special Condition O, *Reopening of Permit For Modifications*, in order to consider other new information concerning marking.
5. In the event that a commercially-reared Atlantic salmon is found in a river within the range of the Gulf of Maine distinct population segment of Atlantic salmon, as defined by the Services, the facility shall conduct a third-party audit of containment procedures as described in Special Condition I.8, below. However, the Department, in consultation with the Services, may exempt a facility from these audits when circumstances preclude the possibility that it was the source of the escaped fish. The results of audits shall be submitted to the Department within 30 days of the facility being notified of the need to conduct the audit.
6. The intentional release of Atlantic salmon to the receiving waters beyond the confines of the net pens is prohibited.
7. The permittees shall report any known or suspected escape of 25% or more of a cage population and/or more than 50 fish with an average weight of two kg each or more within 24 hours to the MeDMR at 207-624-6554 (or 800-432-7381 during off-hours). The caller should indicate they are providing notification of a reportable escape event at a marine cage. They should identify the location, Department and/or MeDMR site ID for marine cages, contact person and number, time of event, estimated size of escape, and actions being taken. An escape reporting form approved by the Department or the Services should be faxed to the Services (USFWS: 207-827-6099 and NMFS: 207-866-7342) and the Department (207-941-4584). Other smaller escape events must be logged according to the CMS and provided to the Department and the Services upon request.
8. The facility shall employ a fully functional marine Containment Management System (CMS) designed, constructed, and operated so as to prevent the accidental or consequential escape of fish to open water. Each CMS plan shall include a site plan or schematic with specifications of that particular system. Each facility shall develop and utilize a CMS consisting of management and auditing methods to describe or address the following: site plan description, inventory control procedures, predator control procedures, escape response procedures, unusual event management, severe weather procedures and training. The CMS shall contain a facility specific list of critical control points (CCP) where escapes have been determined to potentially occur. Each CCP must address the following: the specific location, control mechanisms, critical limits, monitoring procedures, appropriate corrective actions, verification procedures that define adequate CCP monitoring, and a defined record keeping system.

SPECIAL CONDITIONS

I. PROTECTION OF ATLANTIC SALMON (cont'd)

- a. The CMS will be audited at least once per year in any year with fish on site and within 30 days of a reportable escape (> 25% loss of individuals in a single cage or more than 50 fish 2 kg or larger) by a party other than the facility operator or owner qualified to conduct such audits and approved by the Department. A written report of these audits shall be provided to the facility and the Department within 30 days of the audit being conducted. If deficiencies are identified during the audit, the report shall contain a corrective action plan, including a timetable for implementation and re-auditing to verify deficiencies are addressed as in the corrective action plan approved by the Department. Additional third party audits to verify correction of deficiencies shall be conducted in accordance with the corrective action plan or upon request of the Department. The facility shall notify the Department upon completion of corrective actions.
- b. On-site personnel responsible at each facility for routine operation shall be properly trained and qualified to implement the CMS. See Special Condition M of this permit.
- c. Each facility shall maintain complete records, logs, reports of internal and third party audits and documents related to the CMS. The submission of standing inventory at the facility, including all transfers in and out, losses associated with disease, predation or escapes reported to the Department of Marine Resources at the pen level of detail on a monthly basis pursuant to the requirements of *Leases and Special Licenses*, 12 M.R.S.A. § 6077, shall meet the requirements of the CMS.
- d. For new facilities, a CMS plan shall be prepared and made available to Department staff upon request for inspection and approval prior to fish being introduced into the facility.

J. BEST MANAGEMENT PRACTICES FOR OPERATION OF THE FACILITY

1. Unless prohibited by prolonged periods of adverse weather, **the facility shall remove fish carcasses from the net pens at least once per week**. However, when diseases of regulatory concern are present or suspected in the area of the facility, carcasses shall be removed more frequently in accordance with the requirements of the MeDMR or the US Department of Agriculture. Carcasses shall not be disposed of into the receiving waters, but instead shall be collected and transported in leak-proof containers to an approved land-based disposal facility. Records of carcasses removed shall be maintained by the facility and made available to the Department and the MeDMR upon request.
2. The discharge of blood, viscera, or transport water containing blood associated with fish harvesting is prohibited.
3. There shall be no discharge of disinfectants, cleaning agents or similar products, except for losses that may occur incidental to the proper use of these agents. The facility shall maintain and follow best management practices for the use and control of these substances.

SPECIAL CONDITIONS

J. BEST MANAGEMENT PRACTICES FOR OPERATION OF THE FACILITY (cont'd)

4. The discharge of solid waste is prohibited. The facility shall collect used feed bags and other solid wastes for transport, recycling and/or disposal at a recycling or disposal facility approved by the Department.
5. The use of biocidal chemicals for cleaning nets on-site is prohibited. The use of air-drying, mechanical and other non-chemical procedures to control net-fouling organisms is encouraged. On-site mechanical cleaning and pressure washing of nets is permitted only if done in accordance with a management plan to assure that solids from these practices do not accumulate on the sea floor or cause or contribute to impairment of water quality standards, or non-compliance with Special Condition F. In order to control diseases of regulatory concern, net cleaning procedures required by the MeDMR or the US Department of Agriculture shall be followed. The on-shore disposal of materials removed from nets must be in compliance with applicable state and local laws. In the event that sediment monitoring indicates a potential for impact from copper or other anti-fouling agents or other established impact limits, the Department may require the use of alternate practices to avoid such effects.
6. Pursuant to *Prohibition on the use of tributyltin as an antifouling agent*, 38 M.R.S.A. § 419-A(2)(B), no person may distribute, possess, sell, offer for sale, apply or offer for application any substance that contains a tributyltin (TBT) compound in concentrated form that is labeled for mixing with paint or solvents to produce an antifouling paint for use on vessels, wooden lobster traps, fishing gear for marine waters, floats, moorings or piers.
7. When in use, **horizontal predator nets shall be maintained at least 1 meter above the sea floor at all times**. Nets may not impede the current flow or tidal exchange so as to contribute to the deposition of solids that would impair water quality standards. Vertical predator nets may extend to the sea floor. The storage of predator control or containment nets on the sea floor is prohibited. Any net accidentally dropped or lost during storm events that is not recovered immediately shall be tagged with a float, positioned using differential GPS, numbered, and reported to the Department within 24 hours. The net shall be recovered within 30 days from the date lost, unless the Department allows a longer time in an individual case, and the Department shall be notified on the date the net is recovered (or next business day).
8. The permittee shall report to the Department **within 24 hours** (or next business day) of any event(s) at the facility that has the potential to cause non-compliance or that may endanger health or the environment. Additionally, the permittee shall report to the Department any unusual events at the facility that are not required to be reported to the Maine Department of Marine Resources and that may pose significant environmental impact. Upon request by the Department, the facility shall collect and preserve a water sample, and store it until such time that the Department can retrieve it.

SPECIAL CONDITIONS

K. USE OF DRUGS FOR DISEASE CONTROL

1. Drugs approved by the U.S. Food and Drug Administration (FDA) for Atlantic salmon aquacultural purposes may be used consistent with label instructions. Drugs authorized, but not approved, by the FDA may be discharged consistent with Special Condition K.3, below. All applications must comply with applicable FDA requirements. The discharge of any approved drug administered as preventative measures is prohibited unless the following conditions are met: the drug must be approved by FDA and the treatment and route of administration must be consistent with the drug's intended use. The term "discharge" includes any drug or other chemical treatment that is introduced to the fish through injection, ingestion, or immersion at the facility.
2. When the need to treat or control diseases necessitates the use of a FDA-approved drug not identified in a facility's application, the facility shall notify the Department as soon as becoming aware of such circumstances. If advance notice is not possible, the facility shall notify the Department on the next business day after the use has begun. The notification shall include a description of the drug, its intended purpose, amount, concentration, duration of the use and information on aquatic toxicity. In the event the use is one-time occurrence of less than 30 days, an amended application need not be filed. **If the drug is to be used for more than 30 days, or if the use may be repeated, an amended application must be filed promptly filed with the Department.** If, upon review of information regarding the use of a drug pursuant to this section, the Department determines that significant adverse effects are likely to occur, it may restrict or limit such use.
3. INAD and extralabel drug uses. The discharge of drugs authorized by the FDA for use during studies conducted under the Investigational New Animal Drug (INAD) program is prohibited unless in accordance with specific consent given in writing by the Department. Proposals for the use of investigational drugs must demonstrate that the minimum amount of drug necessary to evaluate its safety, efficacy, and possible environmental impacts will be used. Proposals must also include an environmental monitoring and evaluation program that at a minimum describes sampling strategies, analytical procedures, evaluation techniques and a timetable for completion of the program.

The program must consider the possible effects on the water column, benthic conditions and organisms in or uses of the surrounding waters.

- a. The permittee must provide a written report to the Department of an INAD's impending use **within 7 days** of agreeing or signing up to participate in an INAD study. The written report must identify the INAD to be used, method of use, the dosage, and the disease or condition the INAD is intended to treat.
- b. For INAD's and extralabel drug uses, the permittee must provide an oral report to the Department as soon as possible, preferably in advance of use, but **no later than 7 days** after initiating use of that drug. The oral report must identify the drugs used, method of application, and the reason for using that drug.

SPECIAL CONDITIONS

K. USE OF DRUGS FOR DISEASE CONTROL (cont'd)

- c. For INAD's and extralabel drug uses, the permittee must provide a written report to the Department **within 30 days** after initiating use of that drug. The written report must identify the drug used and include: the reason for treatment, date(s) and time(s) of the addition (including duration), method of application; and the amount added.
4. **The discharge of any drug or other disease control chemicals shall be reported to the Department within 30 days of the application.** Included in this report shall be the following: a) date and time of treatment; b) drug or disease control chemical used; c) concentration of drug or disease control chemical administered and total quantity used, including amount of feed used if applied through feed; d) approximate number of fish as well as number of pens treated; e) method of application; and f) predominant current direction during treatment.
5. **The facility shall place signs at the perimeter of its leasehold to notify the public that drugs are or have been in use at that facility.** The signs shall be maintained for the duration of the use and any withdrawal period following termination of use. The signs shall be at least 18 by 24 inches in size and read: "Medications are in use at this site. Contact the Maine Department of Environmental Protection or (company name) for Details" and include a site designation.

L. BEST MANAGEMENT PRACTICES FOR SPILL CONTROL

Any event that leads to the discharge of oil (including but not limited to: motor fuels, heating fuels, lubricating and hydraulic oils, waste oils, and transformer mineral oils) or hazardous substances into the waters of the State, or adjoining shorelines in a quantity sufficient to cause a film or sheen upon the water, or cause a sludge or emulsion to be deposited beneath the surface of the water or upon the adjoining shoreline shall be reported to the Department via the State Police at 1-800-452-4664 and the National Response Center at 1-800-424-8802.

The facility shall maintain and implement a current Spill Prevention Control and Countermeasure (SPCC) Plan prepared by a Professional Engineer or other qualified professional. This plan shall include information and procedures related to the prevention of spills and unplanned discharges of petroleum products including diesel fuel, gasoline, lubrication oils, or any other hazardous materials used at the facility.

1. The plan shall provide a complete list, including quantities, of all petroleum products and other hazardous materials stored at and transferred between the facility, its support craft and its shore-based storage facilities. The plan shall be amended when petroleum products and other hazardous materials not currently listed are transferred to the facility.
2. The plan shall include descriptions of the procedures, including routine equipment inspections, used to prevent, control and/or treat spills and unplanned discharges of petroleum products and other hazardous materials according to the type and magnitude of spill or discharge.

SPECIAL CONDITIONS

L. BEST MANAGEMENT PRACTICES FOR SPILL CONTROL (cont'd)

3. The plan shall include a description of the supplies and equipment maintained onsite that prevent, control or treat spills and unplanned discharges. Supplies should include spill kits sufficient to contain a spill equal to the amount of product or material at the facility.
4. The plan shall include a description of the reporting system that will be used to alert responsible facility management, potentially effected landowners and municipalities, and appropriate legal and regulatory authorities.
5. All members of the facility's staff shall have an operation familiarity with the plan. Training shall include an annual mock spill exercise incident to review the response and reporting procedures of the plan. Documentation of staff training shall be made available to the Department upon request.
6. If the facility at any point becomes subject to the Oil Pollution Prevention regulations at 40 CFR Part 112 and stores oil in excess of the minimum threshold amounts listed in 40 CFR section 112.1(d)(2), then the SPCC Plan shall also include any additional conditions required by those regulations.

M. QUALITY ASSURANCE FOR ENVIRONMENTAL MONITORING AND CONTAINMENT SYSTEMS

Prior to any environmental data collection, infauna identification, analysis work, or containment system assessment associated with this permit, the permittee shall provide to the Department documentation of the employee's or contractor's demonstrated capabilities to conduct such work. Additionally, sampling techniques and analysis methods that differ from those identified in this permit shall be provided to the Department for review and approval.

N. MONITORING AND REPORTING

All sample results and monitoring reports required by this permit shall be submitted to the Department at the following address:

Aquaculture Compliance Inspector
Division of Water Quality Management
Bureau of Land and Water Quality
Maine Department of Environmental Protection
106 Hogan Road
Bangor, Maine 04401

Video and photographic evaluations shall be submitted simultaneously to the MEDEP at the address cited above and to the MEDMR at the address below:

Aquaculture Environmental Coordinator
Maine Department of Marine Resources
P.O. Box 8
West Boothbay, Maine 04575

SPECIAL CONDITIONS

O. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of the tests results or monitoring requirements specified in Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at any time and with notice to the permittee, modify this permit to: (1) include effluent limits necessary to control specific pollutants where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded; (2) require additional effluent or ambient water quality monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

P. SEVERABILITY

In the event that any provision, or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit shall remain in full force and effect, and shall be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

APPENDIX A

Atlantic Salmon Microsatellite Analysis Protocol

This protocol will be used to determine which Atlantic salmon can be used for breeding and production stock pursuant to Special Condition I of this permit. The protocol describes a standardized procedure to classify fish as either North American or non-North American stock and is largely based on the procedures used by King *et al.* (2001; *Molecular Ecology*, 10: 807-821). The permittee will be responsible for providing genotype data to the US Fish and Wildlife Service and the National Marine Fisheries Service (the “Services”) for data analysis and fish classification as described herein.

DNA isolation

Genomic DNA will be isolated from tissue, fin clip or scale samples from each fish intended for use as broodstock employing either a commercially available DNA extraction, such as PureGene (Genta Systems) or DNeasy tissue kit (Qiagen Inc.) or a phenol/chloroform based extraction system such as used in Patton *et al.* (1997; *Can. J. Fish. Aquat. Sci.*, 54: 1548-1556) or, particularly for scales, a Chelex-resin based protocol such as given in King *et al.* (2001). DNA should be of sufficiently consistent quality and quantity to perform PCR analyses.

Microsatellite analysis

The loci used to classify brood fish as either North American or non-North American stock will be: Ssa85, Ssa171, Ssa197, and Ssa202 (O'Reilly *et al.* 1996); SSOSL311 and SSOSL438 (Slettan *et al.* 1995, 1996) and Ssa289 (McConnel *et al.* 1995). Additional loci are required for marking purposes via genetic parentage determination, and will be supplemental to the loci identified above that are used for continent of origin determination. Also, additional loci may be incorporated in the future by the Services to allow for unique genotypes or for additional identification purposes.

PCR conditions for the selected loci will essentially follow that of King *et al.* (2001) and Patton *et al.* (1997) with possible minor modifications for optimization of products of individual loci. The loci will be labeled with fluorescent dyes to allow for visualization, including Ned, Hex, and 6-Fam by ABI or any other comparable commercial supplier of labeled oligonucleotides. An appropriate size standard for genotyping will be used (such as the 500ROX by ABI).

Microsatellite analysis will be performed using the ABI 3100 automated sequencer or any other commercial system providing equivalent results. Fragment analysis will be accomplished using a combination of GENESCAN and GENOTYPER software packages from ABI, or any other commercial system providing equivalent results. The facility will present electronic data tables from the GENOTYPER program, or in an equivalent program that is acceptable to the Services, to the Services in spreadsheet format in Excel or any other commercially available program providing equivalent results that allow the data to be easily reformatted for subsequent analyses. The output files (gel tracings) from GENESCAN and GENOTYPER will also be provided by the facility at the same time to help the Services assure data quality. Data provided must be complete at all loci for all fish.

Size verification of allelic products

To ensure accurate sizing of allelic products from the aquaculture fish relative to the designations developed in the King laboratory (see King *et al.* 2001). The Services will provide an adequate supply of DNA samples from representative fish of known genotypes to enable calibration of equipment throughout the term of the controlling license conditions. Control samples will be used at the inception of the study to set the automated allele designation/binning parameters of the GENOTYPER or equivalent genotyping software so that all subsequent allele designations made for aquaculture fish will be sized relative to the standards.

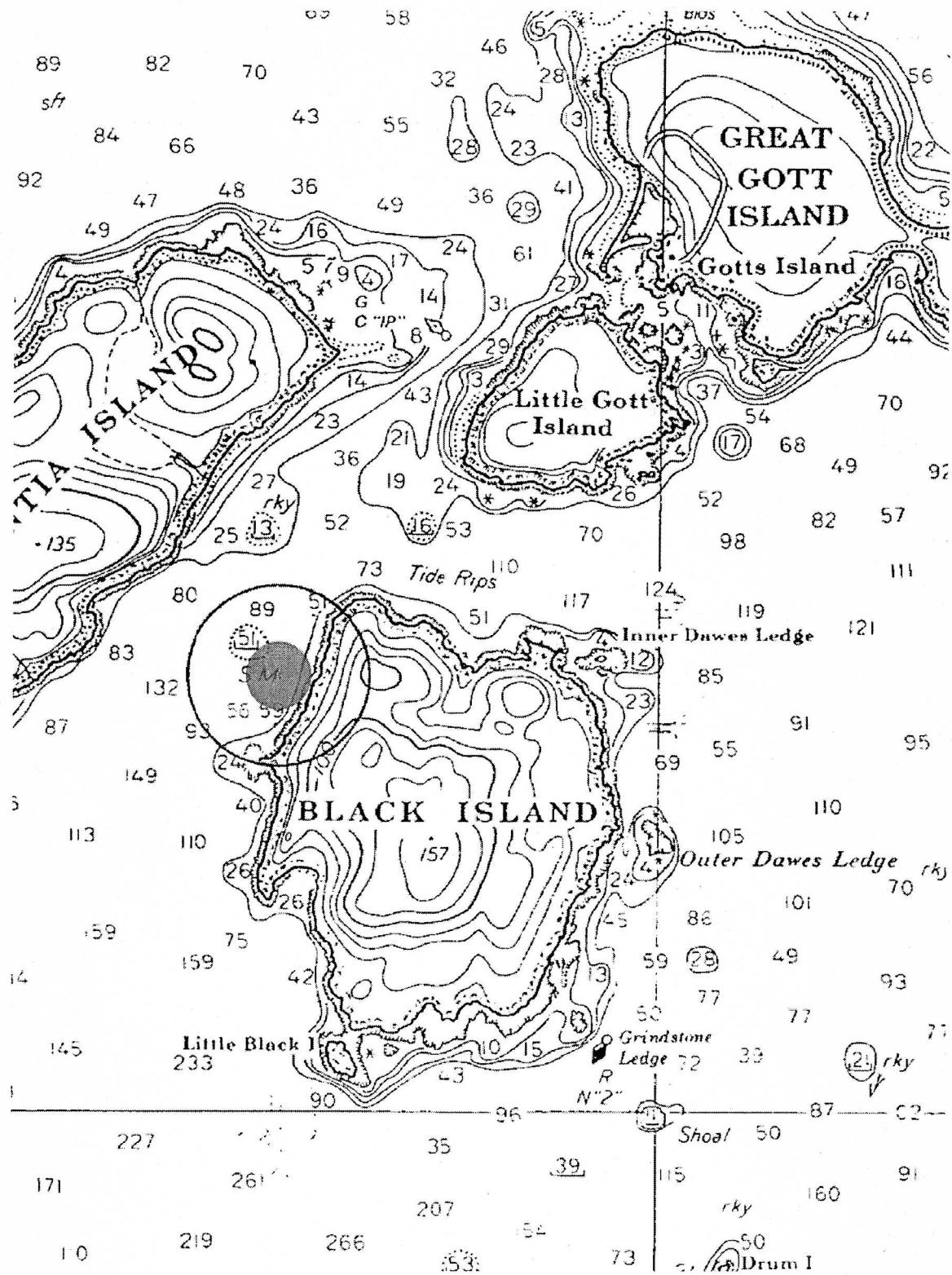
Genetic screening

Identification of North American aquaculture stock will be based on assignment tests performed with GeneClass, www.montpellier.inra.fr/URLB/geneclasse/geneclasse.html. Aquaculture fish will be compared to two reference groups. The first group will be comprised of samples from North America (Dennys, Ducktrap, East Machias, Machias, Narraguagus, Penobscot mainstem, Pleasant, Sheepscot, Conne, Gold, Gander, Miramichi, Saguenay, and Stewiacke rivers and aquaculture stocks derived from St John and Penobscot populations). The second group will be comprised of non-North American samples from at least 2 rivers each from Iceland, Norway, Finland, Scotland, Ireland, and Spain and the Landcatch aquaculture stock plus a hybrid stock crossing Landcatch with St John NB aquaculture salmon.

The likelihood for assigning any given fish to each reference population will be calculated using the program GeneClass. If the ratio of the likelihood scores indicates that North American origin is at least twice as likely as non-North American origin, then that fish will be considered to be of North American origin. All other fish will be classified as non-North American stock. In addition, those fish not able to be classified as either NNA or NA due to incomplete genotypes or insufficient sample size or quality will be considered non-North American. The Services will promptly report the results to the facility.

ATTACHMENT A

Figure 1. Site area



**MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
MAINE WASTE DISCHARGE LICENSE**

FACT SHEET

Date: **August 31, 2009**

PERMIT NUMBER: **ME0110426**
LICENSE NUMBER: **W008199-5Q-B-R**
DMR SITE DESIGNATION: **SWAN BI**

NAME AND ADDRESS OF APPLICANT

ISLAND AQUACULTURE CORPORATION
133 Smalls Point Road
Machiasport, ME 04655

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

BLACK ISLAND
Eastern Blue Hill Bay
Frenchboro, Maine

COUNTY: **Hancock County**

RECEIVING WATER/CLASSIFICATION: **Eastern Blue Hill Bay, Class SB**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Jennifer Robinson**
Compliance Officer
(207) 853-6081

1. APPLICATION SUMMARY

- a. Application – Island Aquaculture Corporation has filed an application with the Department for the renewal of combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0110426/Waste Discharge License (WDL) #W008199-5Q-A-N (“permit,” hereinafter) for the Black Island facility. The permit was issued by the Department to Island Aquaculture Corporation, a subsidiary of Atlantic Salmon of Maine, on May 26, 2004 with an expiration date of May 26, 2009. The permit authorized the discharge of wastes associated with the operation of an Atlantic salmon aquaculture facility located in Frenchboro, Maine.

1. APPLICATION SUMMARY (cont'd)

- b. Proposal - The permittee proposes to utilize the 15-acre lease by continuing stocking the site with North American Atlantic salmon (*Salmo salar*) only. The 5/26/04 permit authorized the permittee to operate a facility that was comprised of thirteen (13) 100-meter (circumference) polar circles with a maximum stocking density of 25 kg/m³ and maximum biomass of 3,623,000 kg.

According to the permittee's 5/7/09 MEPDES permit application, the net pen configuration will consist of twelve (12) polar circles each measuring 100 meters in circumference by 11.0 meters deep with a target density of 25 kg/m³ (maximum of 30 kg/m³) and a maximum biomass of 2,626,800 kg (5,778,960 lbs). The 2009 proposed operating parameters are different (boldfaced) in some aspects from the 2004 operating parameters in the following manner:

	<u>2009 Proposal</u>	<u>2004 Permit</u>
Water depth in pen areas @MLW:	≈20 – 30 meters	≈20 – 30 meters
Min. clearance from pen to sea floor	19 meters	7 meters
Sea floor composition	Silty gravel	Silty gravel
<u>Current:</u>		
1/2 way between sea floor and net bottom	5.4 cm/s (measured Fall 2003)	5 cm/s (meas. Fall 2003)
Baseline monitoring conducted	August 1996	August 1996
Maximum number of fish/pen	100,000 smolts, 25,000 mature ⁽¹⁾	200,000 smolts, 28,000 mature ⁽¹⁾
Maximum biomass of fish/pen	218,900 kg ⁽¹⁾	278,700 kg ⁽¹⁾
Maximum biomass (total)	2,626,800 kg ⁽¹⁾	3,623,000 kg ⁽¹⁾
Pen volume (individual)	8754 m ³	11,150 m ³
Stocking Density	25 kg/m ³ - 30 kg/m ³	25 kg/m ³ - 30 kg/m ³
Maximum feed/year	3,701,331 kg	8,149,000 kg

Footnote (1) – These values do not take mortality into consideration through the grow-out cycle.

At harvest time in 2004, the Black Island site had a maximum biomass of 1,576,534 kg (3,468,374 lbs @ 2.2kg/fish). The site was fallow for a two-year period (2005 – 2007). At harvest time in 2008, the facility had a maximum biomass of 732,927 kg (1,612,439 lbs @ 2.03 kg/fish).

See the **Attachment A** of this Fact Sheet for the proposed pen configurations.

2. DESCRIPTION OF NET PEN ACTIVITIES

Atlantic salmon aquaculture activities are conducted by placing fish in a system of one or more free-floating net pens moored in the open ocean. Most fish are introduced as juveniles and raised to adult size for harvest as a commercial food source. Some fish may be maintained as brood stock. The fish are grown or maintained by adding fish food and, as necessary, medications to the water. This permit authorizes only one species of fish to be reared at approved facilities – Atlantic salmon (*Salmo salar*) of North American origin. Fish are maintained on a year-round basis; the typical rearing period for Atlantic salmon is 18 to 20 months, during which they reach a size of 8 to 12 kg. The majority of discharges from a facility are expected to come from fish excrement and unconsumed feed. The discharges increase significantly during the months of August, September and October when the fish are growing more rapidly in response to increased feeding and optimum growing conditions. Medications may be used to combat infectious disease or parasites. The US Food and Drug Administration (USFDA) grants approval for specific uses of medications, although a veterinarian may prescribe an approved drug for a use or rate not described on its approved label. Additionally, the USFDA may authorize the use of Investigational New Animal Drugs (INAD) and aquaculture facilities may wish to use such medications as part of studies of their effectiveness. Other discharges incidental to the operation of an aquaculture facility include fish scales, disinfectants used to prevent the spread of disease, marine growth removed from nets and anti-fouling agents used to treat nets.

There are approximately 25 current finfish aquaculture leases issued by the Maine Department of Marine Resources (MeDMR). Of these, 23 are presently or have recently been in active use. The statewide total leased acreage is approximately 580 acres. The individual leases range in size from less than 5 acres to 45 acres. In most instances, however, only a small portion (about 10-15%) of the leased area is actually covered by net pens. In terms of net pens, the active facilities range from 6 to 25 pens with a circumference of 100 meters each, although if smaller pens are used the number of pens can be higher. The pens typically cover between 1 and 5 acres per site. The maximum number of fish contained per facility ranges from 61,000 to over 1,000,000 fish.

The location of Atlantic salmon aquaculture facilities is important to both their success in rearing fish and minimizing environmental impacts. Typically, the facility owners seek locations having adequate tidal flushing, appropriate water depths, temperatures and dissolved oxygen concentrations to optimize fish growth. Facilities must also be placed to avoid conflicts with other marine uses such as public access, fishing and navigation. Further, facility operators are concerned with not placing net pens in areas that have very low wintertime water temperatures, damaging ice floes or are subject to high wind or seas.

3. AUTHORITY AND REGULATORY SUMMARY

- a. Maine Department of Environmental Protection - A permit for the operation of a finfish aquaculture facility is required pursuant to Maine Law, 38 MRSA section 413(10) and the Department's rules, Chapter 521(7). Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges require application of best practicable treatment, be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S.A., Section 420 and Department rule 06-096 CMR Chapter 530, *Surface Water Toxics Control Program*, require the regulation of toxic substances not to exceed levels set forth in Department rule 06-096 CMR Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*, and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

A violation of a condition or requirement of a permit constitutes a violation of the State's water quality laws, and subjects the discharger to penalties under *Organization and powers*, 38 M.R.S.A. § 349. Nothing in this permit is intended to limit the Department's authority under the waste discharge and water classification statutes or rules. This permit does not affect requirements under other applicable Maine statutes and Department rules.

March 15, 1999 – The Maine Department of Marine Resources (MeDMR) issued a ten-year aquaculture lease for the Black Island site in the name of Island Aquaculture Corporation.

January 12, 2001 – The Department received authorization from the U.S. Environmental Protection Agency (USEPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine. From that point forward, the program has been referenced as the Maine Pollutant Discharge Elimination System (MEPDES) permit program and will utilize a permit number of #ME0110426 as the primary reference number for the permittee's Black Island MEPDES permit.

May 26, 2004 – The Department issued combination MEPDES permit/WDL ME0110426/W008199-5Q-A-N to Island Aquaculture Corporation for a five-year term.

August 23, 2004 – The USEPA promulgated effluent guideline limitations (EGLs) for *Concentrated Aquatic Animal Production Point Source Category* at 40 CFR Part 451. 40 CFR Part 451 Subpart B, *Net Pen Subcategory*, is applicable to discharges from Atlantic salmon aquaculture facilities that produce 100,000 pounds or more per year of aquatic animals.

September 19, 2007 – The Department modified the 6/19/03 General Permit and individual MEPDES permits (including #ME0110426) to change the date of compliance in Part II.I.4.h. of the General Permit from July 31, 2007 to July 31, 2009, which requires all fish placed in net pens to be identifiable through external means as commercially-reared and identifiable as to the individual facility into which they were placed.

3. AUTHORITY AND REGULATORY SUMMARY (cont'd)

May 7, 2009 – Island Aquaculture Corporation submitted an application for an individual permit to the Department to renew the 5/26/04 MEPDES permit.

- b. Maine Department of Marine Resources (MeDMR) – Pursuant to 12 M.R.S.A. subchapter II and 13-188 CMR, Chapters 2 and 24, the MeDMR has regulatory authority over finfish aquaculture facilities. The MeDMR may issue leaseholds for the location and operation of aquaculture operations after considering, among other things, the effects on navigation, fishing, rights of riparian owners, natural resources and public uses. The MeDMR further regulates the transfer of fish into marine aquaculture operations and has responsibility for fish health issues.

Under Maine law, 12 MRSA, section 6072 (7-A), the MeDMR is required to make the following findings prior to granting a lease for an aquaculture facility:

1. The facility will not unreasonably interfere with the ingress and egress of riparian owners;
2. The facility will not unreasonably interfere with navigation;
3. The facility will not unreasonably interfere with fishing or other uses of the area taking into consideration the number and density of aquaculture leases in an area. For the purposes of this paragraph, "fishing" includes public access to a redeemable shellfish resource, as defined by the Department, for the purpose of harvesting, provided that the resource is commercially significant and subject to a pollution abatement plan that predates the lease application, that includes verifiable activities in the process of implementation and that is reasonably expected to result in the opening of the area to the taking of shellfish within 3 years;
4. The facility will not unreasonably interfere with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna;
5. The applicant has demonstrated that there is an available source of organisms to be cultured for the lease site; and
6. The lease does not unreasonably interfere with public use or enjoyment within 1,000 feet of municipally owned, state owned or federally owned beaches and parks or municipally owned, state owned or federally owned docking facilities.

3. AUTHORITY AND REGULATORY SUMMARY (cont'd)

These considerations are similar to, or more stringent than, those necessary to determine if the narrative water quality are met, and represent the findings of another State agency having expertise in these matters. In the absence of other information, the Department of Environmental Protection would normally place significant weight on the MeDMR's findings. Similarly, the US Army Corps of Engineers is considered to be experts on issues of navigation.

On March 14, 2009, the MeDMR issued an Aquaculture Lease to Island Aquaculture Corporation and assigned a site designation of SWAN BI for the 15-acre lease site. The lease will expire on March 14, 2019.

- c. U.S. Army Corps of Engineers - The US Army Corp of Engineers (ACOE), acting pursuant to Section 10 of the Rivers and Harbors Act of 1899, Title 33 USC 403, permits the installation of net pen containment systems in which aquaculture activities are conducted. The ACOE issued permit #199902003 to Island Aquaculture to place floating fish pens structures within said site.

4. PERMIT SUMMARY

This permitting action is significantly different from the 5/26/04 permitting action in that it is:

- a. Eliminating the requirement for facilities to participate in the Finfish Aquaculture Monitoring Program (FAMP) administered by the Maine Department of Marine Resources (MeDMR);
- b. Eliminating previous Special Condition K, *Husbandry Practices*;
- c. Eliminating the requirement to report the facility's food conversion ratio (FCR);
- d. Eliminating near-field and far-field ambient water quality monitoring requirements (previous Special Condition E.6 and E.7);
- e. Revising the sediment and benthic monitoring characteristics and requirements (Special Condition E.4 of this permit);
- f. Revising the warning level and impact limit thresholds for the sediment mixing zone (Special Condition F of this permit);
- g. Revising the submission deadline for video records and schematic of the video track (Special Condition E.3 of this permit) from 90 days of the monitoring event to "as soon as possible following a reasonable opportunity to review data prior to submission, or within 15 days following the monitoring event, whichever period is sooner";

4. PERMIT SUMMARY (cont'd)

- h. Revising the requirement to submit written reports of video/photographic monitoring events from every time a video record is created to only those times when benthic infauna measurements are made (Special Condition E.3 of this permit);
- i. Revising the horizontal predator net minimum separation criterion (Special Condition J.7 of this permit) from 3 meters to 1 meter;
- j. Eliminating the requirement to notify the Department of changes in the mooring system configuration (previous Special Condition J.8) as this information is reported to the Army Corps of Engineers and available upon request;
- k. Revising the 24-hour reporting requirements at Special Condition J.8 of this permit;
- l. Eliminating the narrative condition specifying that discharges shall not produce or result in harmful algae blooms (previous Special Condition D.5 of this permit) as this is otherwise covered in the permit.

5. CONDITIONS OF PERMIT

Conditions of licenses, 38 M.R.S.A. § 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S.A., § 420 and 06-096 CMR 530 require the regulation of toxic substances not to exceed levels set forth in *Surface Water Quality Criteria for Toxic Pollutants*, 06-096 CMR 584 (effective October 9, 2005), and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

6. RECEIVING WATER QUALITY STANDARDS

Maine law, 38 M.R.S.A. §469(3) classifies Eastern Blue Hill Bay at the point of discharge as a Class SB waterbody. Maine law, 38 M.R.S.A. §465-B(2) contains the standards for Class SB waterbodies. It is noted that the habitat criteria established in Maine law for Class SB waters, is applicable for the areas outside the sediment mixing zone.

7. MIXING ZONES

Pursuant to *Enforcement generally*, 38 M.R.S.A. § 451, the Department may establish a mixing zone for any discharge at the time of application for a waste discharge license. The law states, in part,

[t]he purpose of a mixing zone is to allow a reasonable opportunity for dilution, diffusion or mixture of pollutants with the receiving waters before the receiving

7. MIXING ZONES (cont'd)

waters below or surrounding a discharge will be tested for classification violations. In determining the extent of any mixing zone to be established under this section, the department may require from the applicant testimony concerning the nature and rate of the discharge; the nature and rate of existing discharges to the waterway; the size of the waterway and the rate of flow therein; any relevant seasonal, climatic, tidal and natural variations in such size, flow, nature and rate; the uses of the waterways in the vicinity of the discharge, and such other and further evidence as in the department's judgment will enable it to establish a reasonable mixing zone for such discharge. An order establishing a mixing zone may provide that the extent thereof varies in order to take into account seasonal, climatic, tidal and natural variations in the size and flow of, and the nature and rate of, discharges to the waterway.

This permit is carrying forward the mixing zones from the 5/26/04 permit for both the water column and sea floor beneath and adjacent to Atlantic salmon aquaculture facilities. For the water column, the mixing zone includes waters within and extending 30 meters beyond the net pens. In that area, the dissolved oxygen concentration must not fall below 6.0 mg/L and there may not be concentrations of any substance that would be acutely lethal to organisms drifting or swimming through the mixing zone. Acute lethality is generally evaluated on an exposure time of one hour. This combination of oxygen level and no acutely toxic affects will allow use of the waters within the mixing zone as an acceptable habitant for aquatic organisms.

With regard to the sea floor or benthic mixing zone, this permit is carrying forward a mixing zone beneath and extending out from the net pens a distance of 30 meters. Within each area, the permit allows some changes in fauna and physical characteristics of the sediment, but does not contemplate unlimited changes or the loss of all types of organisms.

8. DISCHARGE LIMITATIONS & CONTROLS

On August 23, 2004, the USEPA promulgated effluent guideline limitations (EGLs) for *Concentrated Aquatic Animal Production Point Source Category* at 40 CFR Part 451. 40 CFR Part 451 Subpart B, *Net Pen Subcategory*, is applicable to discharges from Atlantic salmon aquaculture facilities that produce 100,000 pounds or more per year of aquatic animals. The Broad Cove facility proposes to produce greater than 100,000 pounds of fish per year. It is noted that a facility that produces less than 100,000 pounds per year of Atlantic salmon is subject to the minimum requirements of 40 CFR Part 451 incorporated herein.

40 CFR Part 451.21, *Effluent limitations attainable by the application of the best practicable control technology currently available (BPT)*, states that existing point sources provide BPT including:

- (a) *Feed management. Employ efficient feed management and feeding strategies that limit feed input to the minimum amount reasonably necessary to achieve*

8. DISCHARGE LIMITATIONS & CONTROLS (cont'd)

production goals and sustain targeted rates of aquatic animal growth. These strategies must minimize the accumulation of uneaten food beneath the pens through the use of active feed monitoring and management practices. These practices may include one or more of the following: Use of real-time feed monitoring, including devices such as video cameras, digital scanning sonar, and upweller systems; monitoring of sediment quality beneath the pens; monitoring of benthic community quality beneath the pens; capture of waste feed and feces; or other good husbandry practices approved by the permitting authority.

The new source performance standards (NSPS) for this subcategory are the same as the limitations specified in 40 CFR Part 451.21.

This permitting action requires that facilities utilize real-time control methods to monitor the amount of uneaten feed lost from the net pens. The most commonly used method is installation of video cameras in the water to observe feed falling through the water column. The amount of feed used at any given time varies on a number of factors, including fish size, water temperature and husbandry objectives.

Special Condition E.3 of this permit requires facilities to conduct video or photographic monitoring of the sea floor under and adjacent to each net pen system to identify potential water quality or sediment impacts caused by the operation of the facility. Special Condition E.4 of this permit requires facilities to conduct sediment and benthic monitoring on the sea floor with specific focus on sediment conditions and the infaunal community. Potential benthic impacts within the mixing zone are being controlled through “warning levels” and “impact levels” as established in Special Condition F of this permit. The impact levels represent unacceptable conditions. The warning levels represent conditions of concern that, if they were to worsen, could become violations. For each area and limit, the facility is required to monitor or evaluate several parameters to determine compliance including, but not limited to: sulfide, the presence of *Beggiatoia* bacteria, *Capitella capitata* mats, benthic infauna, the formation of gas in the sediments, the presence of anoxic sediments, the relative abundance of organisms and the diversity of organisms present. Similarly, this permit establishes criteria for sediment outside of the mixing zone areas to define what conditions are considered to represent full attainment of narrative criteria for Class SB waters. The law does not prescribe exact numeric criteria for the criteria in the permit. The Department has, through BPJ, described conditions and measurements that most marine biologists consider indicative of adverse impact.

In this permitting action, the Department is establishing new metrics for sediment and benthic monitoring, namely *Capitella capitata* and percent solids. The new monitoring parameters are being established based on recommendations by the Department’s Division of Environmental Assessment (DEA) and MeDMR, and are intended to provide additional information to evaluate the health of the infaunal community.

8. DISCHARGE LIMITATIONS & CONTROLS (cont'd)

Based on recommendations from the DEA, this permitting action is revising one component of evaluating infauna health by eliminating pollution-tolerant taxa and pollution-sensitive taxa from the warning and impact thresholds condition.

This permitting action is eliminating redox potential monitoring from the sediment and benthic monitoring requirements based on new information which indicates that this test does not provide reliable results to characterize enrichment of sediments. Sulfide testing is being carried forward in this permitting action to assist in characterizing benthic impacts in terms of enrichment. This permitting action is eliminating near-field and far-field water quality monitoring requirements from the previous permit based on a review of monitoring data for the period of September 2003 – October 2007 for all net pen facilities, which indicates substantial compliance with the numeric dissolved oxygen limitations. A total of 1 of 575 (0.2%) minimum dissolved oxygen concentration monitoring results is below the mixing zone limit of 6 mg/L (5.03 mg/L reported for one facility during August 2004). All remaining 574 DO concentration data points are above the 6 mg/L limit. A total of 18 of 565 (3%) dissolved oxygen percent saturation monitoring values were below the applicable Class SB standard of 85% saturation. Ambient salinity, transparency, and temperature monitoring and reporting requirements required by former Special Conditions E.6 and E.7 are also being eliminated in this permitting action as the Department has collected adequate information for these parameters since implementation of the 2003 General Permit.

Special Condition J of this permit, *Best Management Practices for the Operation of the Facility*, contains certain requirements and prohibitions intended to control impacts from permitted facilities. This condition is being carried forward from the previous permit, with the exception that the horizontal predator net minimum separation criterion has been revised from 3 meters to 1 meter. The Department finds no compelling reason to require a minimum 3-meter separation standard in permits.

Special Condition K of this permit, *Use of Drugs for Disease Control*, contains conditions for the use of U.S. Food and Drug Association-approved drugs. In large part this condition is being carried forward from the previous permit; however, the following reporting requirements are being established to ensure consistency with the minimum requirements promulgated at 40 CFR Part 451.3:

1. The permittee must provide a written report to the Department of an INAD's impending use within 7 days of agreeing or signing up to participate in an INAD study. The written report must identify the INAD to be used, method of use, the dosage, and the disease or condition the INAD is intended to treat.
2. For INAD's and extra label drug uses, the permittee must provide an oral report to the Department as soon as possible, preferably in advance of use, but no later than 7 days after initiating use of that drug. The oral report must identify the drugs used, method of application, and the reason for using that drug.

8. DISCHARGE LIMITATIONS & CONTROLS (cont'd)

3. For INAD's and extra label drug uses, the permittee must provide a written report to the Department within 30 days after initiating use of that drug. The written report must identify the drug used and include: the reason for treatment, date(s) and time(s) of the addition (including duration), method of application; and the amount added.

Special Condition L of this permit, *Best Management Practices for Spill Control*, is carrying forward from the previous permit to maintain and implement a Spill Prevention Control and Countermeasure (SPCC) Plan. Additionally, Special Condition E(4) requires facilities to conduct sediment monitoring following each use of medication to ensure medications are not accumulating in quantities or concentrations that would adversely affect the infaunal community.

This permitting action eliminates previous Special Condition K, *Husbandry Practices*, of the 5/26/04 permit. The Department has determined that the MeDMR provides adequate oversight of facility activities related to husbandry practices and that there are other control measures in this permit to prevent adverse environmental impacts from facilities operating in compliance with this permit.

9. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

- a. General - Atlantic salmon aquaculture facilities can cause changes in the immediate area of the net pens. Some deposition of material, primarily uneaten feed and feces, on the sea floor directly beneath and adjacent to net pens can be expected and has been documented during the term of the previous permit. The permit makes provisions for some adverse impacts within the benthic mixing zone, but all classification standards must be maintained outside that area. The deposition of organic materials on the sea floor can, through decomposition, result in depletion of oxygen in the sediments composing the sea floor. This, in turn, can render the area unsuitable for a normal number and diversity of natural organisms. Such conditions, which may occur in varying degrees, may be evidenced by the formation of gas in the sediment, the predominance of pollution-tolerant organisms or the loss of certain species. Since most of the accumulating material is biodegradable through natural processes, the reduction or suspension of aquaculture activities will allow mitigation of benthic impacts without long-term impacts.

The large number of fish in the net pens may, within the immediate water column, reduce dissolved oxygen concentrations due to respiration. The result may be saturation standards not being met under all conditions in summer months. However, it should be noted that minimum dissolved oxygen concentrations measured by facilities during the term of the previous permit at near-field and far-field monitoring stations have been more than adequate to sustain all marine life. The permit establishes a minimum dissolved oxygen concentration of 6.0 mg/L within the water column mixing zone and the saturation levels prescribed by the respective classification standards must be maintained outside the mixing zone at all times.

9. DISCHARGE IMPACT ON RECEIVING WATER QUALITY (cont'd)

There are concerns that an aquaculture facility may harbor diseases or parasites that could spread to wild or other aquaculture facility. The use of disinfectants is a necessary part of preventative practices, and the Department supports their use consistent with recommendations of fish health authorities. However, the use of medications and disinfectants pose potential concerns for toxicity if discharged in excessive amounts.

These effects include acute toxicity to non-target aquatic organisms in the immediate area of the use, chronic effects on benthic organisms and bioaccumulation in the food chain.

The placement of net pens in the water does limit certain narrative uses of the waterbody. These concerns include fishing and navigation. Aesthetic concerns including visual impacts, noises from the operation of equipment and boat traffic, were also raised during the development of the first General Permit in 2003. These arise from the physical placement of the pens, not discharge activities, and are therefore are not subject to regulation as pollutant discharges. However, the MeDMR lease approval process and the US Army Corps of Engineers permits for Atlantic salmon aquaculture operations both consider these topics. By requiring evidence of other permits, the permits assure that the public concerns and interests are protected.

In November, 2000, the National Marine Fisheries Service and the United States Fish & Wildlife Service (collectively, “the Services”) issued a final rule listing Atlantic salmon populations in certain Maine rivers and streams as “endangered” under the federal Endangered Species Act. The listing identified several risks to Atlantic salmon posed by finfish aquaculture, including potential spread of diseases, and the potential that escaped cultured fish could disrupt reproduction of river populations of Atlantic salmon.

This permit contains conditions for Atlantic salmon aquaculture operations in three primary areas: loss prevention through audited containment practices, marking of fish to identify the origin of any fish that may escape, and use of only North American stains of Atlantic salmon.

The Department has considered each of these potential impacts and developed permit limits to address or control each. As permitted, Atlantic salmon aquaculture facilities operating in compliance with the terms of conditions of this General Permit will not cause unreasonable degradation of marine waters and will be in compliance with Maine law 38 M.R.S.A § 464(4)(A)(11).

b. Black Island (Historical):

August 2003 to August 2004 – The site operated with twelve, 100-meter pens with a maximum biomass of 1,677,163 kg (3,689,760 lbs @ 2.2kg/fish).

September 2004 to May 2008 – No fish onsite.

9. DISCHARGE IMPACT ON RECEIVING WATER QUALITY (cont'd)

b. Black Island (Historical):

June 2008 to February 2009 – The site was restocked and operated with twelve, 100-meter pens in use which had a maximum biomass of 732,927 kg (1,487,842 lbs @ 2.03 kg/fish).

From 2003 – 2008, the site had environmental issues that were in the warning level 63% of the time for sulfide, in the impact level 33% of the time for sulfide, in the warning level for *Beggiatoa* (Fall 2003), in the warning level 20% of the time for redox and in the impact level 33% of the time for redox. It is noted this permitting action and the Department's General Permit issued on 9/22/08 have eliminated the redox parameter. The site was not sampled for benthic infauna.

The Department responded to the environmental issues at the site by:

- Sending a letter (6/27/08) stating that the company did not sample for taxa in the sediment mixing zone as required in the facility's permit or as recommended by the Department to the facility for sampling in the fall of 2004.
- Sending a Letter of Warning (3/30/09) for fall 2008 monitoring showing exceedences of the near-field impact limits for redox and sulfide, for monitoring showing the sediment mixing zone to be inside the warning level (42%) for *Beggiatoa* coverage and inside the warning level for sulfide concentration. The facility was required to submit a plan and implementation schedule by April 30, 2009 for modification of operations at the facility in order to bring it back into compliance. The facility was ordered not to stock new fish at the site until the approved plan was implemented. The letter further stated that sediment mixing zone monitoring must be conducted at the facility in the spring of 2009.

The facility responded to the 3/30/09 Letter of Warning by sending an Environmental Management Plan to the Department on 4/27/09.

10. PUBLIC COMMENTS

Public notice of this application was made in the *Mount Desert Islander* newspaper on or about May 7, 2009. The Department receives public comments on an application until the date a final agency action is taken on the application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

11. DEPARTMENT CONTACTS

Additional information concerning this permitting action may be obtained from, and written comments sent to:

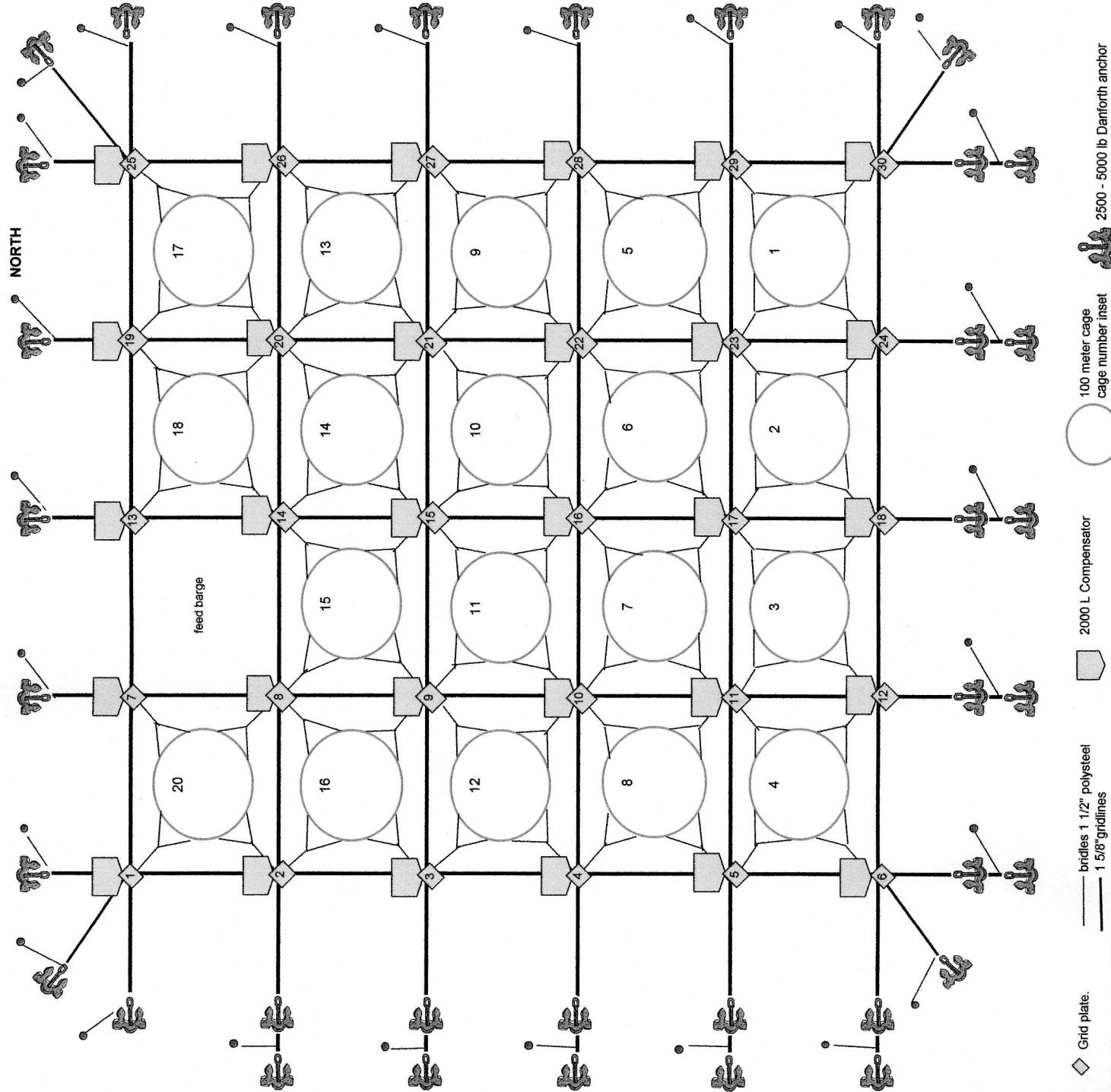
Phyllis Rand
Division of Water Quality Management
Bureau of Land & Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 287-7658 Fax: (207) 287-3435
e-mail: phyllis.a.rand@maine.gov

12. RESPONSE TO COMMENTS

During the period of July 27, 2009, through the issuance date of the permit/license, the Department solicited comments on the proposed draft permit/license to be issued to Island Aquaculture Corporation's Black Island aquaculture facility. The Department did not receive comments from the permittee, state or federal agencies or interested parties that resulted in any substantive change(s) in the terms and conditions of the permit. Therefore, the Department has not prepared a Response to Comments.

ATTACHMENT A

Broad Cove, USA COB BC



MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

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MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

A. GENERAL PROVISIONS

1. General compliance. All discharges shall be consistent with the terms and conditions of this permit; any changes in production capacity or process modifications which result in changes in the quantity or the characteristics of the discharge must be authorized by an additional license or by modifications of this permit; it shall be a violation of the terms and conditions of this permit to discharge any pollutant not identified and authorized herein or to discharge in excess of the rates or quantities authorized herein or to violate any other conditions of this permit.

2. Other materials. Other materials ordinarily produced or used in the operation of this facility, which have been specifically identified in the application, may be discharged at the maximum frequency and maximum level identified in the application, provided:

- (a) They are not
 - (i) Designated as toxic or hazardous under the provisions of Sections 307 and 311, respectively, of the Federal Water Pollution Control Act; Title 38, Section 420, Maine Revised Statutes; or other applicable State Law; or
 - (ii) Known to be hazardous or toxic by the licensee.
- (b) The discharge of such materials will not violate applicable water quality standards.

3. Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of State law and the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

- (a) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act, and 38 MRSA, §420 or Chapter 530.5 for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
- (b) Any person who violates any provision of the laws administered by the Department, including without limitation, a violation of the terms of any order, rule license, permit, approval or decision of the Board or Commissioner is subject to the penalties set forth in 38 MRSA, §349.

4. Duty to provide information. The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

5. Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

6. Reopener clause. The Department reserves the right to make appropriate revisions to this permit in order to establish any appropriate effluent limitations, schedule of compliance or other provisions which may be authorized under 38 MRSA, §414-A(5).

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

7. Oil and hazardous substances. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under section 311 of the Federal Clean Water Act; section 106 of the Federal Comprehensive Environmental Response, Compensation and Liability Act of 1980; or 38 MRSA §§ 1301, et. seq.

8. Property rights. This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Confidentiality of records. 38 MRSA §414(6) reads as follows. "Any records, reports or information obtained under this subchapter is available to the public, except that upon a showing satisfactory to the department by any person that any records, reports or information, or particular part or any record, report or information, other than the names and addresses of applicants, license applications, licenses, and effluent data, to which the department has access under this subchapter would, if made public, divulge methods or processes that are entitled to protection as trade secrets, these records, reports or information must be confidential and not available for public inspection or examination. Any records, reports or information may be disclosed to employees or authorized representatives of the State or the United States concerned with carrying out this subchapter or any applicable federal law, and to any party to a hearing held under this section on terms the commissioner may prescribe in order to protect these confidential records, reports and information, as long as this disclosure is material and relevant to any issue under consideration by the department."

10. Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

11. Other laws. The issuance of this permit does not authorize any injury to persons or property or invasion of other property rights, nor does it relieve the permittee if its obligation to comply with other applicable Federal, State or local laws and regulations.

12. Inspection and entry. The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the EPA Administrator), upon presentation of credentials and other documents as may be required by law, to:

- (a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- (d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

B. OPERATION AND MAINTENACE OF FACILITIES

1. General facility requirements.

- (a) The permittee shall collect all waste flows designated by the Department as requiring treatment and discharge them into an approved waste treatment facility in such a manner as to

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STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

maximize removal of pollutants unless authorization to the contrary is obtained from the Department.

- (b) The permittee shall at all times maintain in good working order and operate at maximum efficiency all waste water collection, treatment and/or control facilities.
- (c) All necessary waste treatment facilities will be installed and operational prior to the discharge of any wastewaters.
- (d) Final plans and specifications must be submitted to the Department for review prior to the construction or modification of any treatment facilities.
- (e) The permittee shall install flow measuring facilities of a design approved by the Department.
- (f) The permittee must provide an outfall of a design approved by the Department which is placed in the receiving waters in such a manner that the maximum mixing and dispersion of the wastewaters will be achieved as rapidly as possible.

2. Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

3. Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. Duty to mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. Bypasses.

(a) Definitions.

- (i) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
 - (ii) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- (b) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this section.
- (c) Notice.
- (i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

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- (ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph D(1)(f), below. (24-hour notice).
 - (d) Prohibition of bypass.
 - (i) Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
 - (A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (C) The permittee submitted notices as required under paragraph (c) of this section.
 - (ii) The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions listed above in paragraph (d)(i) of this section.

6. Upsets.

- (a) Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- (b) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (c) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- (c) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - (i) An upset occurred and that the permittee can identify the cause(s) of the upset;
 - (ii) The permitted facility was at the time being properly operated; and
 - (iii) The permittee submitted notice of the upset as required in paragraph D(1)(f), below. (24 hour notice).
 - (iv) The permittee complied with any remedial measures required under paragraph B(4).
- (d) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

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C. MONITORING AND RECORDS

1. General Requirements. This permit shall be subject to such monitoring requirements as may be reasonably required by the Department including the installation, use and maintenance of monitoring equipment or methods (including, where appropriate, biological monitoring methods). The permittee shall provide the Department with periodic reports on the proper Department reporting form of monitoring results obtained pursuant to the monitoring requirements contained herein.

2. Representative sampling. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. If effluent limitations are based wholly or partially on quantities of a product processed, the permittee shall ensure samples are representative of times when production is taking place. Where discharge monitoring is required when production is less than 50%, the resulting data shall be reported as a daily measurement but not included in computation of averages, unless specifically authorized by the Department.

3. Monitoring and records.

- (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- (b) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.
- (c) Records of monitoring information shall include:
 - (i) The date, exact place, and time of sampling or measurements;
 - (ii) The individual(s) who performed the sampling or measurements;
 - (iii) The date(s) analyses were performed;
 - (iv) The individual(s) who performed the analyses;
 - (v) The analytical techniques or methods used; and
 - (vi) The results of such analyses.
- (d) Monitoring results must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in the permit.
- (e) State law provides that any person who tampers with or renders inaccurate any monitoring devices or method required by any provision of law, or any order, rule license, permit approval or decision is subject to the penalties set forth in 38 MRSA, §349.

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D. REPORTING REQUIREMENTS

1. Reporting requirements.

- (a) Planned changes. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
 - (i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
 - (ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under Section D(4).
 - (iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
- (b) Anticipated noncompliance. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- (c) Transfers. This permit is not transferable to any person except upon application to and approval of the Department pursuant to 38 MRSA, § 344 and Chapters 2 and 522.
- (d) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
 - (i) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Department for reporting results of monitoring of sludge use or disposal practices.
 - (ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Department.
 - (iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Department in the permit.
- (e) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
- (f) Twenty-four hour reporting.
 - (i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance

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has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

- (ii) The following shall be included as information which must be reported within 24 hours under this paragraph.
 - (A) Any unanticipated bypass which exceeds any effluent limitation in the permit.
 - (B) Any upset which exceeds any effluent limitation in the permit.
 - (C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit to be reported within 24 hours.
- (iii) The Department may waive the written report on a case-by-case basis for reports under paragraph (f)(ii) of this section if the oral report has been received within 24 hours.
- (g) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (d), (e), and (f) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (f) of this section.
- (h) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

2. Signatory requirement. All applications, reports, or information submitted to the Department shall be signed and certified as required by Chapter 521, Section 5 of the Department's rules. State law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan or other document filed or required to be maintained by any order, rule, permit, approval or decision of the Board or Commissioner is subject to the penalties set forth in 38 MRSA, §349.

3. Availability of reports. Except for data determined to be confidential under A(9), above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by State law, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal sanctions as provided by law.

4. Existing manufacturing, commercial, mining, and silvicultural dischargers. In addition to the reporting requirements under this Section, all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Department as soon as they know or have reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (i) One hundred micrograms per liter (100 ug/l);
 - (ii) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - (iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with Chapter 521 Section 4(g)(7); or
 - (iv) The level established by the Department in accordance with Chapter 523 Section 5(f).

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- (b) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- (i) Five hundred micrograms per liter (500 ug/l);
 - (ii) One milligram per liter (1 mg/l) for antimony;
 - (iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with Chapter 521 Section 4(g)(7); or
 - (iv) The level established by the Department in accordance with Chapter 523 Section 5(f).

5. Publicly owned treatment works.

- (a) All POTWs must provide adequate notice to the Department of the following:
 - (i) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA or Chapter 528 if it were directly discharging those pollutants.
 - (ii) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
 - (iii) For purposes of this paragraph, adequate notice shall include information on (A) the quality and quantity of effluent introduced into the POTW, and (B) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
- (b) When the effluent discharged by a POTW for a period of three consecutive months exceeds 80 percent of the permitted flow, the permittee shall submit to the Department a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.

E. OTHER REQUIREMENTS

1. Emergency action - power failure. Within thirty days after the effective date of this permit, the permittee shall notify the Department of facilities and plans to be used in the event the primary source of power to its wastewater pumping and treatment facilities fails as follows.

- (a) For municipal sources. During power failure, all wastewaters which are normally treated shall receive a minimum of primary treatment and disinfection. Unless otherwise approved, alternate power supplies shall be provided for pumping stations and treatment facilities. Alternate power supplies shall be on-site generating units or an outside power source which is separate and independent from sources used for normal operation of the wastewater facilities.
- (b) For industrial and commercial sources. The permittee shall either maintain an alternative power source sufficient to operate the wastewater pumping and treatment facilities or halt, reduce or otherwise control production and or all discharges upon reduction or loss of power to the wastewater pumping or treatment facilities.

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2. Spill prevention. (applicable only to industrial sources) Within six months of the effective date of this permit, the permittee shall submit to the Department for review and approval, with or without conditions, a spill prevention plan. The plan shall delineate methods and measures to be taken to prevent and or contain any spills of pulp, chemicals, oils or other contaminates and shall specify means of disposal and or treatment to be used.

3. Removed substances. Solids, sludges trash rack cleanings, filter backwash, or other pollutants removed from or resulting from the treatment or control of waste waters shall be disposed of in a manner approved by the Department.

4. Connection to municipal sewer. (applicable only to industrial and commercial sources) All wastewaters designated by the Department as treatable in a municipal treatment system will be cosigned to that system when it is available. This permit will expire 90 days after the municipal treatment facility becomes available, unless this time is extended by the Department in writing.

F. DEFINITIONS. For the purposes of this permit, the following definitions shall apply. Other definitions applicable to this permit may be found in Chapters 520 through 529 of the Department's rules

Average means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For bacteria, the average shall be the geometric mean.

Average monthly discharge limitation means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. Except, however, bacteriological tests may be calculated as a geometric mean.

Average weekly discharge limitation means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best management practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Composite sample means a sample consisting of a minimum of eight grab samples collected at equal intervals during a 24 hour period (or a lesser period as specified in the section on monitoring and reporting) and combined proportional to the flow over that same time period.

Continuous discharge means a discharge which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

Daily discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.

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Discharge Monitoring Report ("DMR") means the EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by approved States as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

Flow weighted composite sample means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.

Grab sample means an individual sample collected in a period of less than 15 minutes.

Interference means a Discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

- (1) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
- (2) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Maximum daily discharge limitation means the highest allowable daily discharge.

New source means any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:

- (a) After promulgation of standards of performance under section 306 of CWA which are applicable to such source, or
- (b) After proposal of standards of performance in accordance with section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal.

Pass through means a discharge which exits the POTW into waters of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

Permit means an authorization, license, or equivalent control document issued by EPA or an approved State to implement the requirements of 40 CFR parts 122, 123 and 124. Permit includes an NPDES general permit (Chapter 529). Permit does not include any permit which has not yet been the subject of final agency action, such as a draft permit or a proposed permit.

Person means an individual, firm, corporation, municipality, quasi-municipal corporation, state agency, federal agency or other legal entity.

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Point source means any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft, from which pollutants are or may be discharged.

Pollutant means dredged spoil, solid waste, junk, incinerator residue, sewage, refuse, effluent, garbage, sewage sludge, munitions, chemicals, biological or radiological materials, oil, petroleum products or byproducts, heat, wrecked or discarded equipment, rock, sand, dirt and industrial, municipal, domestic, commercial or agricultural wastes of any kind.

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Publicly owned treatment works ("POTW") means any facility for the treatment of pollutants owned by the State or any political subdivision thereof, any municipality, district, quasi-municipal corporation or other public entity.

Septage means, for the purposes of this permit, any waste, refuse, effluent sludge or other material removed from a septic tank, cesspool, vault privy or similar source which concentrates wastes or to which chemicals have been added. Septage does not include wastes from a holding tank.

Time weighted composite means a composite sample consisting of a mixture of equal volume aliquots collected over a constant time interval.

Toxic pollutant includes any pollutant listed as toxic under section 307(a)(1) or, in the case of sludge use or disposal practices, any pollutant identified in regulations implementing section 405(d) of the CWA. Toxic pollutant also includes those substances or combination of substances, including disease causing agents, which after discharge or upon exposure, ingestion, inhalation or assimilation into any organism, including humans either directly through the environment or indirectly through ingestion through food chains, will, on the basis of information available to the board either alone or in combination with other substances already in the receiving waters or the discharge, cause death, disease, abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformations in such organism or their offspring.

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Whole effluent toxicity means the aggregate toxic effect of an effluent measured directly by a toxicity test.



DEP INFORMATION SHEET

Appealing a Commissioner's Licensing Decision

Dated: May 2004

Contact: (207) 287-2811

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner: (1) in an administrative process before the Board of Environmental Protection (Board); or (2) in a judicial process before Maine's Superior Court. This INFORMATION SHEET, in conjunction with consulting statutory and regulatory provisions referred to herein, can help aggrieved persons with understanding their rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

DEP's *General Laws*, 38 M.R.S.A. § 341-D(4), and its *Rules Concerning the Processing of Applications and Other Administrative Matters* (Chapter 2), 06-096 CMR 2.24 (April 1, 2003).

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written notice of appeal within 30 calendar days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days will be rejected.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, c/o Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; faxes are acceptable for purposes of meeting the deadline when followed by receipt of mailed original documents within five (5) working days. Receipt on a particular day must be by 5:00 PM at DEP's offices in Augusta; materials received after 5:00 PM are not considered received until the following day. The person appealing a licensing decision must also send the DEP's Commissioner and the applicant a copy of the documents. All the information listed in the next section must be submitted at the time the appeal is filed. Only the extraordinary circumstances described at the end of that section will justify evidence not in the DEP's record at the time of decision being added to the record for consideration by the Board as part of an appeal.

WHAT YOUR APPEAL PAPERWORK MUST CONTAIN

The materials constituting an appeal must contain the following information at the time submitted:

1. *Aggrieved Status.* Standing to maintain an appeal requires the appellant to show they are particularly injured by the Commissioner's decision.
2. *The findings, conclusions or conditions objected to or believed to be in error.* Specific references and facts regarding the appellant's issues with the decision must be provided in the notice of appeal.
3. *The basis of the objections or challenge.* If possible, specific regulations, statutes or other facts should be referenced. This may include citing omissions of relevant requirements, and errors believed to have been made in interpretations, conclusions, and relevant requirements.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.

5. *All the matters to be contested.* The Board will limit its consideration to those arguments specifically raised in the written notice of appeal.
6. *Request for hearing.* The Board will hear presentations on appeals at its regularly scheduled meetings, unless a public hearing is requested and granted. A request for public hearing on an appeal must be filed as part of the notice of appeal.
7. *New or additional evidence to be offered.* The Board may allow new or additional evidence as part of an appeal only when the person seeking to add information to the record can show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process or show that the evidence itself is newly discovered and could not have been presented earlier in the process. Specific requirements for additional evidence are found in Chapter 2, Section 24(B)(5).

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license file is public information made easily accessible by DEP. Upon request, the DEP will make the material available during normal working hours, provide space to review the file, and provide opportunity for photocopying materials. There is a charge for copies or copying services.
2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer questions regarding applicable requirements.
3. *The filing of an appeal does not operate as a stay to any decision.* An applicant proceeding with a project pending the outcome of an appeal runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will formally acknowledge initiation of the appeals procedure, including the name of the DEP project manager assigned to the specific appeal, within 15 days of receiving a timely filing. The notice of appeal, all materials accepted by the Board Chair as additional evidence, and any materials submitted in response to the appeal will be sent to Board members along with a briefing and recommendation from DEP staff. Parties filing appeals and interested persons are notified in advance of the final date set for Board consideration of an appeal or request for public hearing. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision. The Board will notify parties to an appeal and interested persons of its decision.

II. APPEALS TO MAINE SUPERIOR COURT

Maine law allows aggrieved persons to appeal final Commissioner licensing decisions to Maine's Superior Court, see 38 M.R.S.A. § 346(1); 06-096 CMR 2.26; 5 M.R.S.A. § 11001; & MRCivP 80C. Parties to the licensing decision must file a petition for review within 30 days after receipt of notice of the Commissioner's written decision. A petition for review by any other person aggrieved must be filed within 40-days from the date the written decision is rendered. The laws cited in this paragraph and other legal procedures govern the contents and processing of a Superior Court appeal.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, contact the DEP's Director of Procedures and Enforcement at (207) 287-2811.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.
